SOUTH MARKETING ISSUE
Pages 9-16

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Conference Reports On Control Failure

Group Recommends Look at All Factors

HOUSTON—Many factors may be responsible for failure to obtain cotton insect control, and all should be considered before placing the blame on any one specific cause, according to the Beltwide Cotton Production Conference Report on Cotton Insect Research and Control, released at the conference here.

Preliminary and unedited excerpts from the report state that resistance in cotton insect control "has spread and at the end of the 1958 season it was known to occur generally throughout Louisiana, in a large part of Mississippi and Arkansas and in localized areas in South Carolina, Texas and North Carolina."

While this resistance is a "serious problem," for most pests it is restricted to localized areas, the report stated.

In commenting on effect of environmental and other factors on insect control, the report said:

"Failures to control insects have often been attributed to ineffective insecticides, poor formulations, poor applications and improper timing. Recently, resistance has been blamed

(Turn to COTTON REPORT, page 8)

Bunker Hill Buys Phosphate Property In Montana

KELLOGG, IDAHO—Bunker Hill Co. has announced acquisition of a phosphate property near Elliston, Mont., that could be used to supply its proposed 10 million dollar treble superphosphate fertilizer plant.

The firm has land under option for the plant at Kennewick, Wash.

Purchase of the deposit, which has never been mined or developed on a major scale, eliminated an earlier search for ore-feed in the tri-state area of Utah, Wyoming and Idaho by Bunker Hill.

Covering 1,200 acres, the deposit was sold by Russell Luke of Butte, Mont.

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OUTLOOK FOR '59

Industry Leaders See Record Plant Food Use, Increased Pesticide Sales

Pesticide and fertilizer industry leaders, in year-end statements, look for increased sales in 1959. For pesticides, next year offers a bright potential for industry growth in many areas where the market for chemicals has been far from saturated, according to L. S. Hitchner, executive secretary, and J. V. Vernon, president, National Agricultural Chemicals Assn.

They point to such relatively new markets as those of public health, roadside maintenance and forest management, in addition to the growing agricultural areas of use.

According to present indications, farmers will use more plant food in 1959 than they used in any other year in history, Dr. Russell Coleman, executive vice president of the National Plant Food Institute, says. He predicts that 1958-59 fertilizer tonnage will show an increase of 8-10% over that of the previous year.

Two factors which should help trigger this rise in plant food use, according to Dr. Coleman, are: (1) many of the acres which were in the soil bank this year will be back to work in 1959, and (2) the NPFI's greatly expanded promotional program is now underway and results should be felt next year.

Meanwhile, U.S. Department of Agriculture economists reported that farm income might slack off some in 1959.

NPFI

By DR. RUSSELL COLEMAN
Executive Vice President
National Plant Food Institute

Present indications are that farmers will use more plant food in 1959 than at any time in the country's history. A combination of circumstances is responsible for the optimism now prevalent in the fertilizer industry.

First, farm income has been good in 1958; secondly, the farm program passed by the Congress should be conducive to using larger amounts of fertilizer. Of particular interest in this regard is the fact that many of the 17½ million acres placed in the acreage reserve of the Soil Bank in 1958 will be back into production of crops in 1959.

Another significant factor which should affect increased fertilizer us-

(Turn to PLANT FOOD OUTLOOK, page 5)

USDA

WASHINGTON—A possible slackening of farm income in 1959 is seen by economists of the Agricultural Marketing Service of the U.S. Department of Agriculture, despite 1958's prices and farm income which averaged the best in 5 years. The economists say that prospects are for continued heavy supplies of farm products generally, with wheat and feed grain supplies especially burdensome. Agricultural exports will be slightly lower than a year earlier and a strong domestic market, stimulated by a substantial rise in consumer income, is seen.

Here are some of the other factors reported by Daniel W. Burch, Agricultural Economics Div. of AMS, relating to both the 1958 farm situation and the projected situation for 1959:

Farm operators' realized net in-

(Turn to USDA OUTLOOK, page 8)

NAC

By L. S. HITCHNER
Executive Secretary, National Agricultural Chemicals Assn.

As the books for 1958 are closed, the pesticide industry looks back upon a reasonably successful year. Sales volume of pesticide chemicals continued to rise in 1958 although at a somewhat decreased rate than was the case in 1956 or 1957. Well over 70% of the industry reported sales that equaled or exceeded 1957 levels.

Industry sales at the manufacturers' level will be approximately $265 million this year. This includes sales for strictly agricultural production as well as sales in the rapidly expanding market for pesticides created by the use of these materials in the fields of public health, roadside maintenance and forest management.

In retrospect, the general business recession and adverse weather conditions in many parts of the U.S. made some significant changes in pesticide use patterns by areas. However, more favorable growing conditions, following an extremely wet spring, caused insect populations to reach new highs on crops not normally subject to severe damage. The continued rains in other areas also increased plant disease infection.

Certain crops, such as cotton, generally consuming large quantities of pesticidal chemicals, did not need protection from insect and disease damage in as great a volume as last year, sales in that area reaching only about 80 to 85% of last year's volume.

Aided by the abundant rainfall,

(Turn [illegible]STICIDE OUTLOOK, page 8)

★ ★ ★

OUTLOOK FOR '59

World Agricultural Production Expected To Hit Record High in Fiscal 1958-59

WASHINGTON—In its annual report, World Agricultural Situation 1959, the Foreign Agricultural Service of the U.S. Department of Agriculture estimates that world agricultural production, after dropping slightly last year, will reach a new high in 1958-59. The increase should restore per capita production to the record 1956-57 level—3% above prewar.

World output of farm products in 1958-59 is forecast at 13% above the 1952-54 average, and 33% above the 1935-39 average. The previous record was in 1956-57 when production was 10% above the 1952-54 average.

Increases in crop production have resulted from favorable growing conditions and better techniques. Record harvests are forecast for wheat, rice, corn, sugar, apples and pears, citrus, soybeans, peanuts, cottonseed, coffee, and tea.

Cotton is estimated at only 1% below the 1956-57 record, and most other major crops except tobacco are above last year. There is also prospect for increase in output of livestock products.

For the world as a whole, agricultural production has barely kept pace with population growth during the last 3 years. The great problem area, especially for food, is the Far East where per capita production (excluding mainland China) remains 6 points below prewar. Since prewar this area

(Turn to WORLD OUTPUT, page 5)

A Happy and Prosperous New Year from Croplife

[illegible]ER OUTLOOK

Next year will see big strides in better selling methods and more aggressive merchandising practices by pesticide and fertilizer retailers, says Emmet J. Hoffman, Croplife's marketing editor. Turn to page 9 for his special article.

Freeport Issues Report

Sulphur Consumption Shows Late 1958 Rise, But Falls Short of Last Year's Mark

NEW YORK—Consumption of sulphur toward the end of 1958 registered an increase over earlier months but the gain was insufficient to bring the annual rate to the level achieved by the industry in 1957.

In an annual review, Charles A. Wight, president of Freeport Sulphur Co., attributed the lessened use of sulphur to the decline in business activity. Since sulphur is one of industry's most widely used chemical raw materials, its demand follows very closely the trends of business activity in general, he said.

Preliminary data indicated that total domestic consumption of sulphur was off fractionally from 1957, reflecting the lower output of such major consuming industries as paper, steel, petroleum refining, rubber and textiles. However, the relatively good year experienced by the fertilizer industry and segments of the chemicals industry, two of the largest consumers of sulphur, helped to bolster the consumption figure.

Sulphur production was also down, Mr. Wight said. Total output from all sources in the United States amounted to an estimated 6,200,000 long tons, compared with 7,000,000 tons in 1957. The drop in production was the result not only of lower consumption but also of increased imports and, more significantly, a cutback in stockpiling.

Of the total production, three quarters was brimstone mined by the Frasch hot-water process from salt dome deposits located along the coast of the Gulf in Louisiana and Texas. Indicated Frasch production was approximately 4,650,000 tons, compared with 5,490,000 tons in 1957. Of the balance of the output, 630,000 tons represented elemental sulphur recovered from refinery gases and sour natural gas; 400,000 tons sulphur contained in pyrites; and 520,000 tons sulphur in various forms from other sources.

Twelve Frasch-process mines were in operation in the U.S. in 1958, including a new mine opened in May by Texas Gulf Sulphur Co. at Fannett, Texas. Texas Gulf remained the largest producer, followed by Freeport Sulphur Co., Jefferson Lake Sulphur Co., and Duval Sulphur & Potash Co.

Both imports and exports of sulphur were up in 1958. Imports were at a record of approximately 760,000 tons, compared with 669,000 tons in 1957. The bulk—an estimated 600,000 tons—was Frasch sulphur produced from mines in Mexico.

Shipments abroad, all of which were made by the Frasch producers, were estimated at 1,575,000 tons, slightly higher than in 1957 and only 75,000 tons less than the record shipped in 1956.

To meet more effectively the increased competition abroad from foreign sources of sulphur, the four U.S. Frasch producers during the year formed the Sulphur Export Corp. to sell their sulphur outside the North American continent. The jointly owned company was created under the terms of the Webb-Pomerene Act, which permits competitors within an industry to form a single organization to transact their business abroad.

The quoted price of sulphur in the U.S. has remained unchanged since the reduction of $3 a ton effected late in 1957. Prices during 1958 were quoted at $25 a long ton f.o.b. port and $23.50 f.o.b. mine.

Two new U.S. salt dome deposits were under development, both projects of Freeport Sulphur. The largest is Grand Isle, a discovery of major magnitude located off the Louisiana coast in 50 ft. of water seven miles from the nearest land. The second, known as Lake Pelto, is situated some miles away in the shallow, partially protected water along the coast. At Grand Isle, a steel structure measuring nearly a mile in length was nearing completion at year's end, and production is expected in 1960.

First Indiana Pesticide Meeting Set for Jan. 20-22

LAFAYETTE, IND.—The first Indiana Pesticide Conference will be held Jan. 20-22 in Purdue University's new Memorial Center here.

Staff members from Purdue and the Universities of Illinois and Wisconsin will talk about chemicals and the latest recommendations for the control of pests in 1959.

The Indiana-Ohio Aerial Applicators' Conference will be held Jan. 21-22 in connection with the pesticide meeting.

Dr. F. W. Slife, who has charge of weed control research at the University of Illinois; Earl K. Wade, extension plant pathologist at the University of Wisconsin, and Steve Moore, University of Illinois extension entomologist, will appear on the pesticide conference program.

Sole Distributor

CHICAGO — The Sole Chemical Corp., Chicago chemicals producer, announces the appointment of Monroe-Danford & Co., Weehawken, N.J., as technical representative in the area of New York state and upper New Jersey. The Monroe-Danford organization, consisting of Maxwell D. Smart, Donald M. Shaw and Roy H. Hoonhout, will serve the cosmetic, pharmaceutical, aerosol and detergent formulating industries with Sole's line of surface active agents.

PESTICIDE MEETING

LEXINGTON, KY.—A one day program to discuss current recommendations for the control of insect and mite pests of plants and animals will be held in room 232, agricultural experiment station building, University of Kentucky at Lexington on Jan. 13, according to Lee H. Townsend, head of the department of entomology and botany. The department of entomology and botany is sponsoring the meeting.

FDA Gives Permit For Microbial Pesticide

WASHINGTON — Marketing of food and feed crops that are treated with a microbial pesticide, Bacillus thuringiensis Berliner, will be permitted under a temporary exemption from the requirement of a Food and Drug Administration tolerance, George P. Larrick, commissioner of food and drugs, has announced.

Referring to the new pesticide as a possible useful "bacteriological warfare" agent against certain insects, Mr. Larrick said that the FDA exemption provides authorization for the first time to apply this type of pesticide directly to food crops. Milky disease bacteria have been widely used for control of Japanese beetle, but these have been applied only to the soil, not directly to crops.

Before clearing use of the new microbial pesticide under the Pesticide Amendment to the Food, Drug, and Cosmetic Act, FDA required the manufacturer to provide scientific data showing the proposed use is without hazard to health. Data showed the microorganisms were not pathogenic (disease-carrying) to warm-blooded animals. Tests in which human volunteers ate and inhaled the substance showed no evidence of ill effects.

The Food and Drug Administration action was taken in connection with the granting of an experimental permit for one year by the U.S. Department of Agriculture to the manufacturer of the new pesticide, Pacific Yeast Products, Inc., Wasco, Cal. Under the USDA permit, distribution is planned to selected growers in 16 states, Puerto Rico, the Territory of Hawaii and Australia. The substance will be applied as a dust or spray to protect crops against insect pests including cabbage looper, imported cabbage worm, alfalfa caterpillar and certain other moth-type insects that, in the worm stage of growth, feed on and destroy crops.

In making the announcement, Mr. Larrick said: "The development of new safe pesticides to protect our food supply contributes to progress both in agriculture and in public health. During the year's trial period requested by the manufacturer, FDA will be observing closely. If no question arises and the product proves useful and practicable, the manufacturer may ask clearance for general commercial use."

GRASSHOPPER SPRAYING

FARGO, N.D. — During the 1958 season, approximately 778,000 acres of North Dakota land were sprayed for grasshoppers, North Dakota Agricultural College reported.

William C. McConnell

SALES APPOINTMENT — Appointment of William C. McConnell to the agricultural chemical sales department of Columbia-Southern Chemical Corp., Pittsburgh, has been announced by Chris F. Bingham, vice president, sales. Prior to joining Columbia-Southern, Mr. McConnell had served as plant manager for the Woolfolk Chemical Works, Ltd., of Fort Valley, Ga., during the past six years. In his new capacity Mr. McConnell will be associated with Columbia-Southern's market for finished formulations of agricultural chemicals and will headquarter in the firm's Pittsburgh office. A native of Louisville, Ky., Mr. McConnell was graduated with a Bachelor of Science degree in chemical engineering from Georgia Institute of Technology.

Increased Cattle Spray Sales in 58 Reported

CHICAGO—Sales of cattle spray products during the 1958 summer season spurted sharply ahead of previous years, according to a survey of formulators just completed by the Glenn Chemical Co., Inc., Chicago.

In announcing the results of the survey, Z. Z. Dworkin, sales manager, pointed out that the rise had occurred despite unseasonably cool weather and relatively few biting flies throughout the Midwest.

The 58 formulators questioned constituted a partial list of those whose cattle sprays contained Tabatrex insect repellent. Eleven of these had not previously formulated a cattle spray. Of the remaining 47, a total of 41 reported increased sales, three reported "about the same," and three stated their volume was somewhat lower than in the previous year.

All but two questioned felt that sales were "as good as could be expected, or better" considering the unfavorable weather conditions. Increased sales were attributed to: (1) Greater awareness of the effect of biting flies on milk production; (2) aggressive advertising and educational efforts; (3) the impact on the dairy farmers of the new "repellent" concept of protection from flies; and (4) the availability of newer, more potent, and more effective cattle sprays.

The Glenn Chemical Co., according to Mr. Dworkin, will repeat its promotional campaign during the summer of 1959. Farm periodicals, radio, and other appropriate media will be utilized heavily to encourage increased use of sprays containing Tabatrex on livestock.

PEST CONTROL CONFERENCE

AUBURN, ALA.—The 1959 Alabama Pest Control Conference will be held Feb. 24-25 at the Alabama Polytechnic Institute here. Sponsors of the institute are the API Agricultural Experiment Station and the Alabama Association for Control of Economic Pests.

AAI CONVENTION SPEAKERS—New president of the Agricultural Ammonia Institute is S. C. Smith (at microphone), the Smith Co., Uvalde, Texas. He was elected at the organization's Chicago convention Dec. 4. In the picture are, left to right, Zenas H. Beers of Chicago, Midwest director of the National Plant Food Institute; F. E. Hartzler, economist of Kansas State College, Emporia; Jack F. Criswell, executive vice president of the Institute; Mr. Smith; Dr. M. S. Williams of Washington, economist of the National Plant Food Institute, all of whom were on the convention program.

Progress Report

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Harry D. McNeeley In New Post at Tennessee Eastman

KINGSPORT, TENN. — Harry D. McNeeley, vice president of Tennessee Eastman Co. (division of Eastman Kodak Co.), has been named executive vice president of the division.

On assuming his new duties Jan. 1, Mr. McNeeley will also become a vice president of three Eastman subsidiaries which have headquarters in Kingsport: Eastman Chemical Products, Inc., Holston Defense Corp., and Holston Trading Corp. In addition, he will be a vice president of the Texas Eastman Co. division, Longview, Texas, and on the board of directors of the Holston Trading Corp.

Mr. McNeeley, 44, was born in Orlinda, Tenn., and attended the public schools there. He came to Tennessee Eastman in 1935, following his graduation from Carson Newman College with a bachelor of science degree.

California Spray-Chemical Announces Weed Control

RICHMOND, CAL.—A weed killer, specifically developed to control Johnson grass, has been announced by California Spray-Chemical Corp.

The new chemical, tested in experiment stations, has a phytotoxic effect and also acts to increase the penetrating qualities of the herbicidal oils with which it is mixed, the company claimed.

The product has no systemic or residual effect, the company said.

Texas Citrus Industry Needs Research Funds

WELASCO, TEXAS — The citrus fruit industry of South Texas has made a remarkable comeback from the disastrous freeze of 1949 and 1951 when nine million trees were killed. Still needed, however, are more research funds so that several problems confronting producers can be solved.

The Citrus Research Coordinating Committee says that farmers need more information on water management, diseases, insects, fertilization and new ways of preparing specialty products.

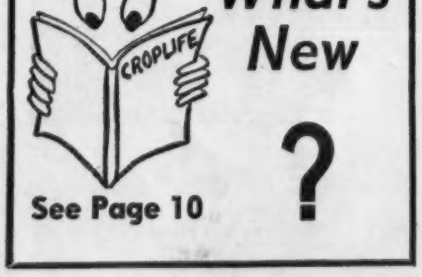
Producers claim that Texas grapefruit is superior to the California and Florida product, but it does not present as nice an appearance. Much of this unattractiveness may result from wind and insect damage. Also nematodes, viruses and minor element deficiencies have been detrimental.

Several research projects are being carried out by the Texas A.&M. College and the USDA, but more money is needed for a full scale study of citrus fruit problems.

Texas needs the same kind of information that Florida and California marketing organizations have developed in order to compete with them.

WILD OATS COST

FARGO, N.D. — Wild oats cost spring wheat area farmers an estimated $500 per year per farm, according to the North Dakota Agricultural College here.



'Practical Weed Control' Is Meeting Theme

SANTA BARBARA, CAL.—"Practical Aspects of Weed Control" will be the theme of the 11th annual meeting of the California Weed Conference, announced J. T. Vedder of Hanford, conference president. The conference will be held Jan. 20-22, in the Miramar Hotel Auditorium here.

Leading weed authorities of California will discuss various phases of weed control at the opening session beginning on the afternoon of Jan. 20.

Following the presidential welcome by Mr. Vedder of the Sunland Industries, Inc., Fresno, a special report of the activities of the statewide weed control committee of the State Chamber of Commerce will be made by J. Earl Coke, vice president of the Bank of America, San Francisco.

Weed control experts will discuss administrative problems of roadside weed control, modern roadside weed control, weed control on military installations, urban weed control with emphasis on smog control, and public utility weed problems. Those having these problems are invited to attend.

Sessions on following days will be devoted to a wide array of weed problems. A panel on weed control in row crops has been arranged for the special benefit of growers interested in field and specialty crops. Latest chemical weed control methods will be reported for sugar beets, spinach, strawberries, lettuce, cole crops, celery and onions.

A panel on specific weeds important to California agriculture will be pointed to agricultural regulatory officials and farmers. Weeds to be discussed include morning glory, Johnson grass, Russian knapweed and hoary cress.

One of the highlights of the conference will be the Jan. 21 evening session on "What's New in Chemicals." A panel of weed control authorities will report on new developments in chemical weed control and answer questions on a wide variety of subjects. Paul F. Dresher, west coast representative, Amchem Products, Inc., will be the panel moderator.

Other subjects for the three day session will include: what do we know about wetting agents, weed control in turf, weed control in ornamental plantings, and weed control in ornamentals.

Pittsburgh Plate Glass Develops Fruit Fungicide

PITTSBURGH—Development of a high finish fungicide formulation designed to control fruit growing disease such as apple scab and cherry leaf spot has been announced by the Corona Chemical Division of Pittsburgh Plate Glass Co.

The new product, known as Glyoxide Dry, is a wettable powder fungicide having mite-suppressing action on apples. The powder contains 75% active ingredient and has a low dosage rate making it possible for use in concentrated spray applications, the company says.

Glyoxide Dry is compatible with most of the commonly used organic insecticides and fungicides, the company says.

SunOlin to Build New Office Building

PHILADELPHIA—A contract for construction of a $77,000 office building in Claymont, Del., has been let by the newly-formed SunOlin Chemical Co.

When the one-story building is completed about March it will be used initially for construction purposes of SunOlin's proposed urea plant and later to house the administrative and operating staffs of the company. SunOlin Chemical Co. was formed this fall as a subsidiary company by Sun Oil Co. and Olin Mathieson Chemical Corp.

Plant Food Production and Capacity

NITROGEN

(Thousands of short tons of contained N)

Year	Capacity (January 1)					Production [1]				Foreign Trade [1]			Use [1]		
	Synthetic [2]	By-Product [3]	Organics [4,5]	Total	Percent of 1952	Synthetic [6]	By-Product [3]	Organics [4]	Total	Imports [7]	Exports [7]	Net	Industrial [2]	Agricultural [8]	Total
1952	1707	208	40	1955	100	1688	183	40	1911	375	73	302	500	1485	1985
1953	1750	217	35	2002	102	1882	215	35	2132	517	50	467	595	1652	2247
1954	2208	231	35	2474	127	2250	182	35	2467	431	106	325	517	1884	2401
1955	2920	244	30	3194	163	2675	222	30	2927	366	230	136	625	1940	2565
1956	3353	248	30	3631	186	2778	207	30	3015	367	282	85	675	1951	2626
1957	3433	248	30	3711	190	3052	214	30	3296	327	324	4	750	N.A.	N.A.
1958	3912	248	30	4190	214	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

PHOSPHATE

(Thousands of short tons of available phosphate, P_2O_5)

Year	Capacity (January 1) [10,2,4,6]					Foreign Trade [2,7]			Production [2,7]				Use [6]
	Normal	Triple Super	Other Concentrated	Total	Percent of 1952	Imports	Exports	Net	Normal	Triple Super	Other Concentrated	Total	U. S. Agricultural
1952	3298	440	[11]	3738	100	45	84	39	1777	388	N.A.	2165	2219
1953	3391	620	[11]	4011	107	80	87	7	1690	457	N.A.	2147	2218
1954	3457	580	200	4239	113	49	137	88	1653	562	N.A.	2215	2253
1955	3522	870	250	4642	124	66	152	86	1596	707	160[12]	2463	2282
1956	3471	870	250	4591	123	58	180	122	1488	753	204	2445	2246
1957	3380	870	300	4550	122	55	255	200	1452	832	244	2528	N.A.
1958	3331	1020	400	4751	127	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

POTASH [13]

(Thousands of Short Tons of Potash, K_2O)

Year	Capacity [3]		Production [3]	Deliveries [14]					Total Agricultural Use [9,17]
	Total Domestic	Percent of 1952	Total Domestic	Agricultural [15]	Industrial	Exports	Imports	Net U. S. [16]	
1952	1700	100	1665	1447	86	57	179	1655	1665
1953	1915	113	1912	1575	101	47	124	1753	1720
1954	2000	118	1949	1760	90	59	114	1905	1849
1955	2100	124	2067	1754	112	132	165	1899	1882
1956	2200	129	2172	1747	122	234	169	1804	1872
1957	2400	141	2266	1747	124	271	169	1769	N.A.
1958	2500	147	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

[1]Supply (production plus imports) does not balance with disappearance (domestic use plus exports) primarily due to conversion and distribution losses and inventory changes for which no data are available.
[2]BDSA, U.S. Department of Commerce.
[3]Bureau of Mines, U.S. Department of Interior.
[4]CSS, U.S. Department of Agriculture.
[5]Bureau of the Census, U.S. Department of Commerce.
[6]ARS, U.S. Department of Agriculture.
[7]Based upon Bureau of the Census data.
[8]Domestically produced synthetic nitrogen only. An estimated 40 to 50 thousand tons of N for industrial uses comes from imports and by-product production.
[9]Capacity for organics is assumed as production since organic capacity is nearly impossible to determine.
[10]Based on "Survey of The Superphosphate and Wet-Process Phosphoric Acid Industries in the U.S. in 1950 and 1951," Adams et al, USDA, and subsequent known increases.
[11]Included with triple superphosphate.
[12]Estimated.
[13]Total U.S. including Puerto Rico and Hawaii. Movements to Canada and Cuba are considered exports.
[14]Prepared from American Potash Institute data.
[15]Material of domestic origin only.
[16]A small amount of potash for agricultural use is not included in deliveries because it comes from such minor sources as nitrate of soda-potash and organics.
[17]From all sources.
n.a.—Not available.

Statistics on plant food production and capacity for the past seven years, 1952-1958, inclusive, were presented recently by the National Plant Food Institute. The trends noted in that work projected into 1959, should have a bearing on what to expect in the new year in the way of production and, in some cases, types of materials.

The relationship between capacity and actual production of plant food ingredients is interesting to note and to apply to the 1959 curve. Will production move closer to catching up with capacity?

Dr. M. O. Williams, chief agricultural economist of NPFI in cooperation with Kenneth Horner, U.S. Department of Commerce, John Mahan, U.S. Department of Agriculture and J. D. Romaine, American Potash Institute, compiled the tables presented here. They appeared originally in the NPFI Plant Food Review.

Fertilizer Sales in South Texas Show Gain

REFUGIO, TEXAS — Fertilizer sales in 22 south Texas counties the first six months of 1958 were considerably higher than during the same period in 1957, according to the Texas Agricultural Experiment Station. The sale of materials was 21% higher than in 1957.

Sales in 18 Coastal Bend counties showed mixed goods purchases of 6,130 tons and materials totaling 10,799 tons. Four counties in the Lower Rio Grande bought mixed goods weighing 8,252 tons, with materials amounting to 10,799 tons.

Sales of ordinary superphosphate in the two areas were down 24%, while concentrated superphosphate dropped 20%. However, anhydrous ammonia increased 32%, ammonium sulphate 36%, 16-20-0 rose 32%.

Nitrogen materials increased in sales throughout the state during this period. They amounted to 150,124 tons as compared to 112,227 during the first six months of 1957. Forty-eight per cent of the nitrogen used was in the form of anhydrous ammonia, while 58% of the nitrogen from materials came from anhydrous ammonia.

Fred Bostock — Neil McClarnan

APPOINTMENTS — Crown Zellerbach Corp. has announced the appointment of Neil McClarnan as northern regional sales manager, multiwall bag sales division. Headquartered in Chicago, Mr. McClarnan will direct Crown multiwall sales staffs in Minneapolis, Columbus, St. Louis, Kansas City, and New York. A veteran of 20 years' sales experience in the multiwall bag field of the Midwest and East, Mr. McClarnan replaces Fred Bostock, who will be transferred to San Francisco company headquarters as western regional sales manager with responsibility for coordination of Crown multiwall sales offices in Seattle, Portland, Los Angeles, Salt Lake City and Denver.

PLANT FOOD OUTLOOK

(Continued from page 1)

age is the National Plant Food Institute's improved and expanded promotional program now underway in the fertilizer industry.

Of course, there will be local areas in 1959 which may not use as much fertilizer as was used in 1958. However, for the country as a whole, both tons of fertilizer and the actual amount of plant food should be materially increased.

In an effort to be more specific, it is our "guesstimate" that unless unusually hazardous weather in the spring prevents a normal spring movement, fertilizer tonnage should increase 8 to 10% during the 1958-59 crop year over that used in the preceding period.

The industry's support of the National Plant Food Institute and its ability to work more closely with educational and promotional agencies has given the industry an effective tool in promoting its product. One of the results of this expanded effort is increased emphasis on soil fertility by other educational and research organizations.

If the industry should have a 10% increase in fertilizer usage this year, it should be remembered that the fertilizer industry still will have an unused production capacity of at least 25%.

As a word of caution so that this optimistic appraisal will not be carried too far into the future, the current crop year could add further to surplus farm commodities now in storage. This could result in more drastic government regulations to control crop production in the future. If so, the fertilizer industry may have to work even harder to maintain this anticipated gain or to continue to increase consumption in the years ahead.

American Potash Head Sees Sales Rise

LOS ANGELES—Sales of American Potash & Chemical Corp. should rise more than 8% in 1959 over 1958 "assuming that general business conditions are satisfactory," according to Peter Colefax, company president.

The chemical corporation president said that American Potash & Chemical Corp. sales have risen from $18 million in 1952 to more than $48 million this year, while products marketed under the company's Trona trademark have increased from less than 20 to more than 100. At the same time, AP&CC manufacturing facilities have grown from one plant at Trona, Cal., to eight ranging from coast to coast, and research laboratories have increased from one to five.

American Potash & Chemical Corp. sales break down into six product groups representing about 95% of the company's business, Mr. Colefax said. These groups include boron products; lithium chemicals; thorium, yttrium and rare earth compounds; electrochemicals; sodium chemicals, and agricultural chemicals including potash and others.

Mr. Colefax said that the corporation's output of agricultural chemicals has increased during recent years but the ratio of industrial sales to agricultural sales has increased much faster so that "today only about 15% of our products go to agriculture, while 85% go to industry."

CONVENTION SET

LEXINGTON, KY. — The seventeenth annual convention of the Association of Southern Feed and Fertilizer Control Officials is scheduled for Hot Springs, Ark., June 9-10, at the Velda Rose Motel, Bruce Poundstone, secretary-treasurer, has announced.

Plans Completed for Oregon Applicators' Meeting

PORTLAND, ORE.—Plans have been completed for the 8th annual Oregon Agricultural Chemical Applicators' Conference to be held Jan. 5-6 on the Oregon State College campus, Corvallis, reported Ray Kelso, Oregon Department of Agriculture herbicide control supervisor.

Mr. Kelso's organization and OSC are sponsoring the educational sessions which are expected to draw some 150 participants who will be advised on latest herbicide control and precautions for air and ground applications.

DUSTER KILLED

SACRAMENTO—Norman N. Paisley of Tracy, Cal., was killed when his crop dusting airplane struck a power line, burst into flames and crashed into a canyon near Martinez, Cal.

WORLD OUTPUT

(Continued from page 1)

has changed from a net exporter of food grain of about 3 million metric tons to a net importer of 9 million tons, and the deficit is growing. Long-range, the situation is not likely to improve and may get considerably worse. Contributing causes included population growth, exhausted soils, and retarded technology. Other less developed areas have similar problems, and time will be required to increase production through technological improvements.

Consumption of most farm products will increase in 1958-59, but not as much as supplies. Demand for food, still strong, was little affected by recession or a slowing down of economic activity in industrialized countries.

With exportable supplies of farm products exceeding demand, world market prices have declined. The United Nations indices of average import and export unit values (1953 equalling 100) show a drop for food, excluding vegetable oils, from 101 in January-March, 1957 to 94 in April-June, 1958.

FDA APPOINTMENT

WASHINGTON — George P. Larrick, commissioner of food and drugs, has announced the appointment of John H. Guill, Jr., as chief of the Chicago district of the Food and Drug Administration. Mr. Guill replaces George T. Daughters, who will be in charge of the FDA's Detroit district. In his new position, Mr. Guill will direct enforcement of the Federal Food, Drug, and Cosmetic Act in areas of the northern third of Illinois, including Greater Chicago, and the eastern third of Wisconsin, including Milwaukee, Green Bay and Sheboygan.

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Regular mixtures cure well with UAL-S, are free-flowing and resist caking. In granular mixtures, UAL-S aids in producing good yields of hard, round, firm granules that store and distribute well. UAL-S is non-corrosive to fertilizer manufacturing equipment, including mild steel and aluminum, and it's safe—handles at moderate pressure, and there's no danger of flash fires.

Du Pont specialists can give you at-the-plant advice on proper use of UAL-S in your fertilizer mixtures. They stand ready to assist you in profitably formulating mixtures containing UAL-S. For further information on UAL-S, fill out and mail the coupon.

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		Composition: Parts/100	
Nitrogen Content	42.5%	Urea	38.8
Freezing Point	20°F.	Ammonium Sulfate	10
Pressure	15 psi at 60°F.	Ammonia	27.1
Specific Gravity	1.13	Water	15.1
Fixed to Free Ratio	.9 to 1.0	CO_2	9.0

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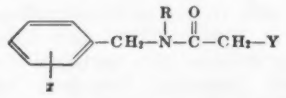
Industry Patents and Trademarks

2,864,679

Selective Method of Inhibiting Preemergent Growth of Grasses. Patent issued Dec. 16, 1958, to Philip C. Hamm, Webster Groves, and Angelo J. Speziale, Kirkwood, Mo., assignors to Monsanto Chemical Co., St. Louis, Mo. The method of selectively inhibiting the germination of grass seeds and the preemergence growth thereof in the presence of growing crops, which comprises treating the soil medium with a herbicidal amount of a compound of the structure:



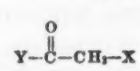
wherein Y is a halogen atom, wherein x is a radical selected from the group consisting of a hydrogen atom, a halogen atom, a nitro radical and an alkyl radical having up to four carbon atoms, and wherein R is selected from the group consisting of hydrogen, alkyl radicals having up to six carbon atoms, alkenyl radicals having up to six carbon atoms, alkynyl radicals having up to six carbon atoms, halo-substituted alkyl radicals having up to six carbon atoms, halo-substituted alkenyl radicals having up to six carbon atoms, and halo-substituted alkynyl radicals having up to six carbon atoms.

2,864,680

Herbicides Related to 1,4,5,6-Tetrachlorobicyclo(2.2.1)-5-Heptene. Patent issued Dec. 16, 1958, to Edward R. Degginger, North Syracuse, N.Y., assignor to Allied Chemical Corp. A compound suitable for use as a herbicide selected from the group consisting of 1,4,5,6-tetrachloro-2-acetoxybicyclo-(2.2.1)-5-heptene, 1,4,5,6-tetrachlorobicyclo - (2.2.1) - 5-heptenol-2 and 1,4,5,6-tetrachlorobicyclo-(2.2.1)-5-heptenone-2.

2,864,682

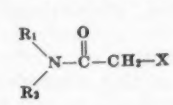
Selective Method of Inhibiting Preemergent Growth of Grasses. Patent issued Dec. 16, 1958, to Angelo J. Speziale, Kirkwood, Mo., assignor to Monsanto Chemical Co., St. Louis, Mo. The method of selectively inhibiting the germination of grass seeds and the pre-emergence growth thereof in the presence of growing crops, which comprises treating the soil medium with a herbicidal amount of a compound of the structure:



wherein X is a halogen of the group consisting of chlorine, bromine and iodine and wherein Y is an organic nitrogen containing heterocyclic radical derived from amines of the group consisting of morpholine, piperidine, pyrrolidine, pyrrole, pyrroline, gamma-pyridone, alpha-pipecoline, beta-pipecoline, gamma-pipecoline, beta-pyrrolidone, thiomorpholine, and the substituted piperidines and morpholines wherein the substituents are selected from the group consisting of halogen radicals, nitro radicals and alkyl radicals having up to four carbon atoms, the nitrogen atom of the heterocyclic ring being attached directly to the carbonyl group.

2,864,683

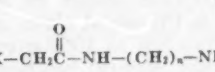
Selective Method of Inhibiting Preemergent Growth of Grasses. Patent issued Dec. 16, 1958, to Philip C. Hamm, Webster Groves, and Angelo J. Speziale, Kirkwood, Mo., assignors to Monsanto Chemical Co., St. Louis, Mo. The method of selectively inhibiting the germination of grass seeds and the preemergence growth thereof in the presence of growing crops, which comprises treating the soil medium with a herbicidal amount of a compound of the structure:



wherein each of the R_1 and R_2 radicals is selected from the group consisting of hydrogen, alkyl radicals having up to six carbon atoms, alkenyl radicals having up to six carbon atoms, alkynyl radicals having up to six carbon atoms, halo-substituted alkyl radicals having up to six carbon atoms, halo-substituted alkenyl radicals having up to six carbon atoms, and halo-substituted alkynyl radicals having up to six carbon atoms, not more than one of the R_1 and R_2 groups being hydrogen, and wherein the X radical is a halogen atom of the group consisting of chlorine, bromine and iodine.

2,864,684

Herbicides. Patent issued Dec. 16, 1958, to Angelo J. Speziale, Kirkwood, Mo., assignor to Monsanto Chemical Co., St. Louis, Mo. A method of destroying plants which comprises contacting the plant with a herbicidal amount of a compound having the structure



wherein X is a halogen atom of a group consisting of bromine, chlorine and iodine, and wherein n is an integer from two (2) to six (6).

2,864,685

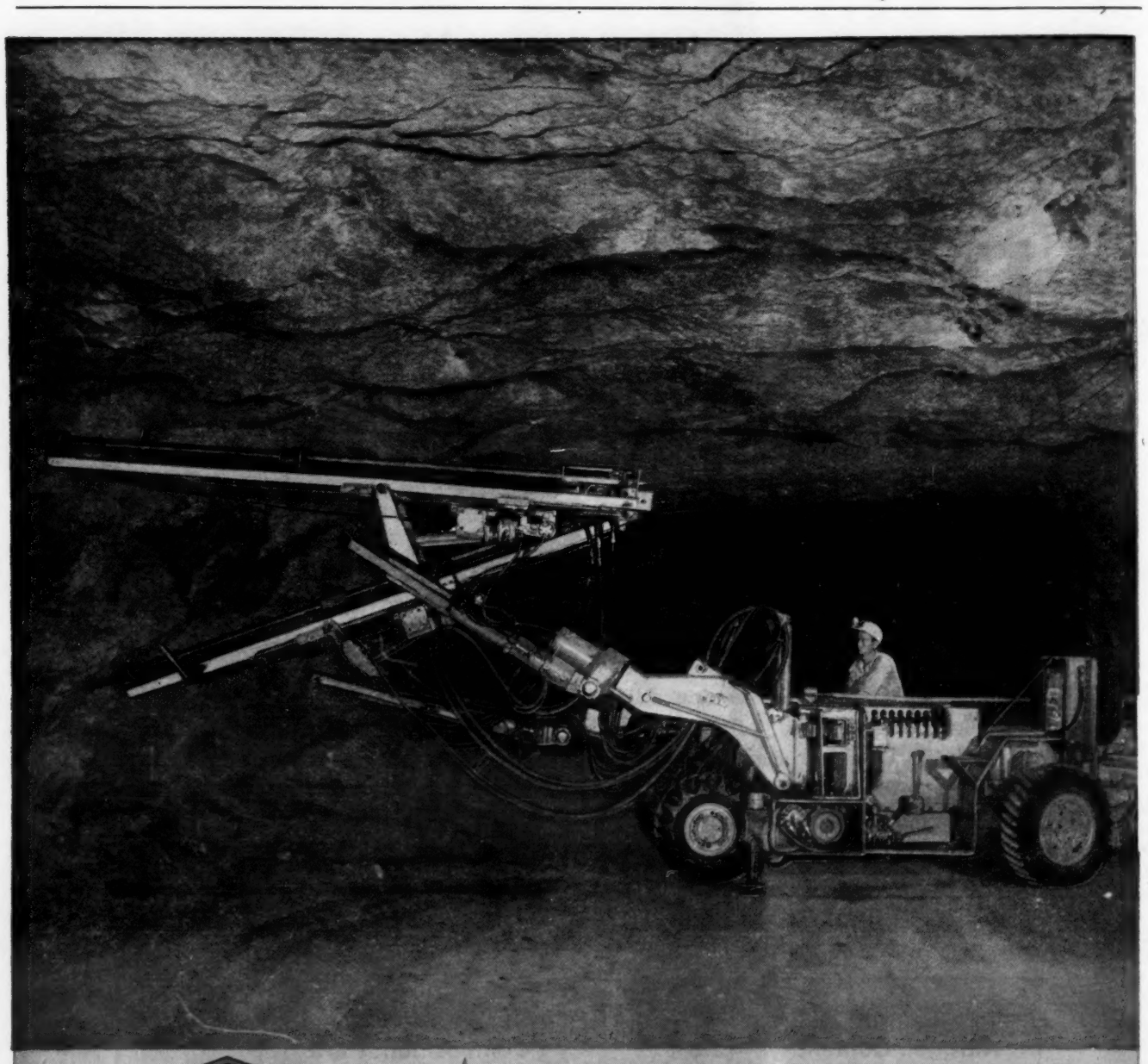
Process for Mixed Fertilizer Containing Ureaform. Patent issued Dec. 16, 1958, to Charles E. Waters, Petersburg, and Joseph A. Smith, Richmond, Va., assignors to Allied Chemical Corp., New York. In the process of making a mixed fertilizer in which nitrogen is supplied in the form of a reaction product of urea and formaldehyde, the steps comprising mixing a super phosphate with a metallic base in an amount equal to 1.4 to 1.9 mol equivalents of base per mol of P_2O_5 in the phosphate, mixing in a urea formaldehyde resin fertilizer and blending to form a mixture having a pH of 6.0 to 7.5.

2,864,727

Rodent Repellent Binder Cord Comprising Naphthenic Acid Stabilized Quinaldine. Patent issued Dec. 16, 1958, to Pranas Jucaitis, Chicago, assignor by mesne assignments to International Harvester Co., Chicago. A binder cord having incorporated therein a rodent-repelling composition consisting of an effective amount up to 2% by weight of quinaldine and up to 2% by weight of naphthenic acids.

2,864,735

Nematocidal Cycloparaffin Compositions and Method of Using Same. Patent issued Dec. 16, 1958, to Roy E. Stansbury and Lyle D. Goodhue, Bartlesville, Okla., assignors to Phillips Petroleum Co. A composition of



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matter composed of soil rendered nematocidal and in an amount effective to render the said soil nematocidal in character a composition of matter containing 99 to 75 weight percent of a cycloparaffin having 3 to 8 carbon atoms in the ring and one to 25 percent of at least one compound selected from the group consisting of ethylene bromide, methyl bromide, dichloropropene, chlorobromopropene, chloropicrin, ethylene-chlorobromide, and dichlorodiethyl ether. A method of rendering soil nematocidal in character which comprises inoculating said soil with a cycloparaffin having 3 to 8 carbon atoms in the ring in the amount effective to render said soil nematocidal in character.

2,864,736

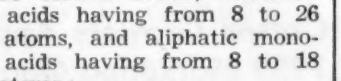
Methods of Combatting Fungi Employing Thiourea Salts of Sulfonic Acids. Patent issued Dec. 16, 1958, to Johannes Thomas Hackman, Amsterdam, Netherlands, assignor to Shell Development Co., New York. The method of protecting plants from destruction by fungi which comprises treating said plants with a fungicidal toxic amount of an S-alkylthiourea salt in which the alkyl group contains from 1 to 14 carbon atoms of an acid selected from the group consisting of alkylated benzene, naphthalene and phenol sulfonic acids and oil-soluble petroleum sulfonic acids having from 12 to 26 carbon atoms, monocarboxylic acids having from 8 to 26 carbon atoms, and aliphatic monosulfate acids having from 8 to 18 carbon atoms.

2,864,737

Methods of Destroying Fungi. Patent issued Dec. 16, 1958, to Ellis Kirby Fields, Chicago, and Roger W. Watson and Melvern C. Hoff, Highland, Ind., assignors to Standard Oil Co., Chicago. The method of controlling fungi on vegetables, fruits and field crops, which comprises contacting said fungi with a composition consisting essentially of a fungicidally active material resulting from the reaction at a temperature of from about 25° F. to about 200° F. of (1) a molybdenum oxide, (2) an acidic phosphorus sulfide-hydrocarbon reaction product and (3) hydrogen peroxide, said three components of the reaction being used in the approximate proportions based upon one part of component (1), of 1 to 40 parts of component (2), and 0.05 to 4 parts of component (3), and said acidic phosphorus sulfide-hydrocarbon reaction product being obtained by reacting from about 1% to about 50% of a phosphorus sulfide with the hydrocarbon at a temperature of from about 200° F. to about 600° F., and a substantially greater amount of a non-phytocidal carrier therefor, selected from the group consisting of a dust, an aqueous dispersion and a refined petroleum fraction lower boiling than lubricating oils, said composition being applied at a rate of from 1 to about 16 pounds of said fungicidally active material per acre.

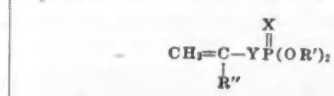
2,864,740

Beta-Alkylmercaptovinyl Dialkyl Phosphate and Thiophosphate Insecticides. Patent issued Dec. 16, 1958, to William R. Diveley, Newark, Del., assignor to Hercules Powder Co., Wilmington, Del. A compound of the formula:



in which R and R′ are lower alkyl radicals, R″ is selected from the group consisting of lower alkyl radicals and hydrogen and X and Y are members of the group consisting of sulfur and oxygen. An insecticide composition comprising a compound of claim 1 and an insecticide adjuvant as a carrier therefor. The method of preparing a compound of the formula:

which comprises contacting a compound of the formula RSCl with a compound of the formula

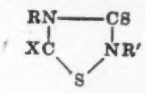


at a temperature in the range of about —20 to about 50° C. whereby a compound of the formula

is produced and subsequently heating said last named compound at a temperature in the range of about 20° C. to about 150° C. in the presence of an acid acceptor, in the formulas R and R′ representing lower alkyl radicals, R″ representing a member of the group consisting of lower alkyl radicals and hydrogen, and X and Y representing members of the group consisting of sulfur and oxygen.

2,863,803

Protecting Materials Against Fungi by Applying Substituted Dithiono and Thiono-oxo-thiadiazolidines. Patent issued Dec. 9, 1958, to Isaac Benghiat, Bronx, N.Y., James B. Bowers, Mountain View, Cal., and George E. Lukes, Irvington, and Silvio L. Giolito, Whitestone, N.Y., assignors to Stauffer Chemical Co. A method of protecting material from attack by fungus comprising applying thereto a small amount of the compound having the formula:



wherein R is a member of the class consisting of phenyl and alkyl groups, wherein R′ is a member of the class consisting of phenyl and alkyl groups, and wherein X is a member of the class consisting of S and O. A method of protecting material from fungus attack comprising applying thereto a small amount of 2,4-dimethyl-3,5-dithiono-1,4-thiadiazolidine. A method of protecting material from fungus attack comprising applying thereto a small amount of 2,4-dimethyl-3-thiono-5-oxo-1,2,4-thiadiazolidine.

Industry Trade Marks

.The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of $25 must accompany each notice of opposition.

Hand Drawn Indian teepee within double circle, for plant growth stimulant. Filed Sept. 26, 1958, by Thomas H. Plummer, Jr., d.b.a. T. P. Laboratories, Cleveland, Ohio. First use Aug. 13, 1958.

what's your

E.Q.*?

QUESTIONS

	True	False
1. Inorganic salts are frequently added to oil-water systems to break emulsions.	☐	☐
2. It is impossible to prepare practical emulsions in which the aqueous phase contains high concentrations of inorganic salts.	☐	☐
3. Good agricultural emulsifiers may be characterized as individual specific chemical compounds.	☐	☐
4. The anionic components of an agricultural emulsifier impart improved performance in soft water.	☐	☐
5. A good emulsifier can be fully characterized by the ratio of anionic to nonionic components.	☐	☐
6. The active ingredient content of an emulsifier is the chief criterion of its efficiency.	☐	☐
7. Variations in toxicant, solvent and waters require adjustments in emulsifier blend for optimum performance.	☐	☐
8. The ratio of the emulsifiers in a matched pair need not be altered when the concentrate is used at high or low dilution rates.	☐	☐
9. In general, it is safer to formulate slightly higher on the nonionic side than on the anionic side when employing matched pairs.	☐	☐
10. Most formulators use the correct amount of emulsifier in their emulsifiable concentrates.	☐	☐

*Emulsifier Quality

ANSWERS

1. True. Most emulsifiers "salt out" in the presence of inorganic salts which impairs their function and breaks the emulsion.
2. False. Emcols H-A, H-B and H-C are used to emulsify insecticides in concentrated mixed fertilizer solutions in which the salt concentration may approach saturation. These emulsifiers have a unique tolerance to high salt concentrations.
3. False. Most efficient agricultural emulsifiers are blends of several anionic and nonionic surfactants.
4. True, if properly balanced with nonionic components. Conversely, the nonionic components of such an emulsifier impart improved performance in hard water.
5. False. It is not sufficient to balance the anionic-nonionic ratio. Since both anionic and nonionic components have hydrophilic and lipophilic properties, each in turn must be properly balanced to obtain maximum efficiency at the minimum use level. This requires blending several components, in some cases as many as 12 different surfactants.
6. False. The composition of the separate components and their balance is the prime consideration.
7. True. This is achieved most conveniently by the use of matched pairs of emulsifiers.
8. False. The rate of dilution required by the particular field application affects the blend of the matched pair necessary for optimum performance.
9. True. An excess of nonionic may result in excessive creaming which can easily be redispersed, but an excess of anionic may result in a tendency toward oil separation.
10. Only you can answer this. If you are using Emcols, you are saving money because they can be used at low use levels and give outstanding aging stability. Low moisture content, the rigidly controlled components, and Emcol know-how allow you to manufacture superior concentrates at competitive prices.

SCORING: If most of your answers were correct, you definitely have emulsifier "know-how". And most formulators with "know-how" look to Emulsol for leadership in the field of emulsifiers for the pesticide industry. This leadership is based on continued **research** into new problems which arise such as liquid-pesticide, liquid fertilizer formulations . . . on rigid **control of production** by an outstanding staff of chemists . . . on **technical service** to help you with your particular problems.

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PESTICIDE OUTLOOK

(Continued from page 1)

weeds of all types flourished, and growers intent on making a good crop applied appreciably larger quantities of herbicides than in 1957—both in pre-emergence applications as well as during the growth period.

These observations concerning the 1958 season indicate that although the industry will look upon the year as a good one, much remains to be done to realize the full potential of the pesticide industry.

Looking to 1959, J. V. Vernon, vice president, Food Machinery and Chemical Corp. and president of National Agricultural Chemicals Assn., has said, "The growth potential for the pesticide industry is a bright one. Despite increased sales of agricultural chemicals, it has been estimated that only 17% of the total need is being supplied."

U.S. Department of Agriculture statistics indicate that only 30% of the market for compounds to curb animal diseases has been captured; of the needed insecticides, only 17% have been sold; chemicals for control of plant diseases have saturated only 9% of the potential, and weed control by use of herbicides accounts for only 5% of possible usage.

This is only a partial list of areas where saturation of the market has not been achieved, but it vividly points out the possibilities for dynamic future growth of the industry. Some of this growth will be accomplished in 1959, especially in the relatively new markets for pesticides that are being developed in the new fields mentioned above, that of public health, roadside maintenance and forest management.

During the first six months of 1958 the World Health Organization had been supplied over 33 million pounds of DDT by U.S. producers. This material was for use in the worldwide malaria eradication program sponsored by WHO and in which over 60 nations participated. Additional funds have now been appropriated by the federal government amounting to some $19.6 million. This will be spent for insecticide purposes in the coming months in further efforts to wipe out several deadly diseases of man that are carried or caused by insects.

The new interstate highway system now under construction will add at least another million acres of rights-of-way to the existing two million acres now being maintained. During 1959 it is expected that a considerable acreage in new highway rights-of-way in practically every state will be sprayed with herbicides for the chemical mowing of turf areas and the maintenance of grass, at mature height, free of weeds, showing a substantial saving to the highway engineers charged with the maintenance of these areas.

Efficient forest management has recognized the value of pesticides in increasing marketable yields of top quality timber. During 1959 it is anticipated that sales of various pesticide materials in this market area will appreciably increase.

It is interesting to note that the forest industries estimate insect and disease damage to standing timber in the U.S. to be some nine times greater than the damage caused by forest fires—this damage being estimated to be equivalent to seven billion board feet of timber.

The pesticide industry is faced with a great challenge in 1959. The need for increasing production of food, fiber and other essentials of life, is more apparent than ever, especially in view of the continued growth in population and the decline in total acreage for farm production.

The correct use of chemical pesticides can and will allow farm production to keep pace with requirements. Speaking for the industry, Mr. Vernon, NAC president, states, "I am sure that we can meet the challenge and accomplish the task before us."

Geigy Announces Chemical For Iron Deficiency

YONKERS, N.Y. — Geigy Agricultural Chemicals, division of Geigy Chemical Corp., announces the availability of sequestrene NaFe iron chelate on vermiculite.

This new formulation provides sequestrene iron chelates for correction of iron deficiency (chlorosis) in citrus, ornamentals, turf and agricultural crops growing in acid soils. It contains 5% iron as metallic.

Sequestrene iron chelate on vermiculite is granular, free-flowing, dustless. It does not adhere to foliage and there is no danger of burn. It may be used alone or mixed with fertilizer, the company says.

FORM CORPORATION

NAMPA, IDAHO — John L. and James G. Yoder and George E. Kellogg have incorporated Farmers Fertilizer Service, Inc., to do business in this area with $5,000 capital stock.

USDA OUTLOOK

(Continued from page 1)

come in the first nine months of 1958 ran at an annual rate of $13 billion, he reports, and added that it is likely to continue at that rate for the rest of the year. It is about a fifth above 1957, primarily reflecting higher prices for livestock and record crop marketings.

Farm production costs increased about 5% as a result of generally higher cost rates, and sharply increased expenditures for feeder livestock and feed.

Next year, cash receipts from farm marketings may be well maintained. Receipts from hogs and wheat may be somewhat smaller, but those from cotton may be larger if acreage is expanded appreciably.

Soil bank payments to farmers will be substantially reduced in 1959 with the elimination of the acreage reserve. This, together with increasing interest, taxes, and wage payments, and some other production expenses, could bring a reduction in realized net farm income of some 5 to 10%, depending largely on the level of crop production next year.

As the economy continues to recover from the recent recession, the income farm people get from nonfarm sources should increase. Off-farm income now accounts for about one-third of farmers' total net income.

Prices for farm products in the first 11 months of this year averaged 6% higher than in the same period of 1957. Reduced marketings of hogs and cattle and a strong demand for feeder cattle resulted in substantially higher prices than in 1957. In addition, freeze damage resulted in smaller supplies and higher prices for citrus fruits and vegetables in the first part of the year. Supplies of vegetables have increased in recent months and prices have declined. In 1959, farm product prices may average slightly lower, principally because of lower prices for hogs.

Cattle production is now on the uptrend, but slaughter will not be much different in 1959 than in 1958, with prospect for a continued buildup in herds. Prices of cattle will hold up well in 1959.

The fall pig crop is considerably above last year, indicating a substantial increase in marketings next spring and a considerable decline in the price of hogs during 1959. Prices of poultry and eggs are also expected to average somewhat lower. For the basic price supported commodities, the average price support levels may not be appreciably different from those on 1958 crops.

Prices paid by farmers, which so far this year are about 3% above 1957, may increase a little during 1959. Some price increases are likely for industrial items as the economy continues to recover, in addition to further increases in the cost of interest, taxes, and farm wage rates.

With prices received likely to be down some in 1959, and prices paid —including interest, taxes, and wage rates—up a little, the parity ratio in 1959 may show some decline.

Crop output in 1958, much of which will be marketed in 1959, is about a tenth larger than in 1957, and at a new high. Yields per acre rose some 12% and the planted acreage was the smallest in 40 years. The 1959 crop output could be as large as 1958.

With record 1958 production, carryover stocks are expected to rise during the current marketing year. Wheat and feed grain stocks will be at new records. Stocks of cotton next August 1 are expected to be down a little from this year and down sharply from last year.

Consumer incomes have risen in the last 6 months to a level above a year earlier. But the purchasing power of disposable income per person in the third quarter of 1958 was still 2% below a year earlier.

Consumer incomes over the next year are expected to rise significantly. With higher incomes consumers should increase their expenditures in 1959. Some of the gain is likely for consumer durable goods. Expenditures for non-durable goods and services, only slightly affected by the recession, should continue very strong in 1959.

Consumers have continued to spend about the same proportion of their income on food in recent years. With rising incomes in 1959 consumers probably will increase their food expenditures.

The farmer's share of the consumer's food dollar in 1958 is estimated to be about the same as 1957, as both marketing charges and farm prices increased. The outlook for 1959 is for some further increase in marketing charges.

Exports of U.S. farm products during 1957-58 were valued at $4 billion, about 15% less than the record exports in 1956-57. Shipments of cotton and wheat were substantially reduced.

In 1958-59 agricultural exports may be slightly below the level of 1957-58. Some further decline in cotton exports is likely as foreign supplies are larger and consumption has eased. Tobacco exports also are expected to be lower. But exports of food fats and oils, soybeans, wheat, flour, and rice will probably be above last year's.

Georgia Program Given Boost By NPFI, Banker Group

ATLANTA — The National Plant Food Institute has completed arrangements with the Georgia Agricultural Extension Service for support of a program demonstrating the value of using recommended rates of mixed fertilizer and nitrogen on pastures and corn, it was announced by S. L. Tisdale, southeastern regional director of NPFI.

The project will be under the supervision of Ralph Johnson, extension agronomist. The Institute is providing the sum of $2,000 to assist in this undertaking, which will be carried out during the 1959 crop year.

Approximately 26 fertility demonstrations are to be established using two crops, pastures and corn. The size of the individual demonstration plots will be limited to a maximum of 10 acres.

Meanwhile, the Georgia Bankers Assn., in cooperation with the National Plant Food Institute, has made eight soil sampling tubes available to the county agent in each of the 25 counties included in the expanded Georgia Agronomy Program. This announcement was made by W. G. Cobb, chairman of the agricultural committee of the association, and Arnold Almand, association secretary.

Cotton Growers Approve 1959 Marketing Quotas

WASHINGTON — Preliminary returns indicate that growers of both upland and extra long staple cotton approved marketing quotas for the 1959 crops in referenda held throughout the Cotton Belt Dec. 15, the U.S. Department of Agriculture announced.

Of growers voting, early results show that 92.3% approved quotas for the 1959 upland cotton crop, and 88.5% approved quotas for the 1959 crop of extra long staple cotton.

Since quotas on both types of cotton have been approved by more than the necessary two-thirds of growers voting, marketing quotas will continue in effect for next year's cotton crops—with growers who exceed their applicable farm acreage allotments being subject to penalties on the farm's excess production. Price support will be available to growers who comply with the farm's applicable acreage allotment for the particular kind of cotton grown.

USDA APPOINTMENT

WASHINGTON—A. Mason DuPré, Jr., has been appointed assistant to the administrator of the Agricultural Research Service.

COTTON REPORT

(Continued from page 1)

for many failures in local areas. Extremes of humidity, rainfall, temperature, sunlight and wind may reduce the effectiveness of any insecticide applied to plants.

"Climatic factors affect the development of insect populations, certain conditions being favorable to some species and detrimental to others. The rate and total growth of the plants may also be affected by climatic factors.

"A combination of an adverse effect on the toxicity of the insecticide plus a favorable effect on growth of the plant and insect population may result in poor control. Conditions favorable to the insecticide and adverse to the insect population will result in effective control.

"Some insects, for example the boll weevil and lygus bugs, become more difficult to kill as the season progresses. Therefore, one should consider all factors before arriving at a decision as to the specific causes responsible for the failure to obtain control."

Special Merchandising Section

Better Selling

Marketing News and Features

Florida Dealers Learn by Doing At Demonstration

Lawn mowers, fertilizer spreaders, chemical spreaders, tillers and sprayers were included in the large variety of lawn equipment featured at a field day for retail dealers at Miami recently. →

The Hector Turf & Garden Supply Co., sponsor of the affair which was held at the Miami Country Club, demonstrated all of the equipment.

Following this, the dealers themselves were given an opportunity to operate the equipment.

Gordon Wood, Hector's general manager, said the main reason for holding the field day demonstration was to let the dealer become thoroughly familiar with the products.

"We felt that by first demonstrating the proper operation of the product and then letting the dealer try it himself, we could help increase his knowledge," Mr. Wood said.

SOME OF the equipment which was tried by dealers at a Florida field day.

Use of Fertilizer In Irrigation Grows

CARLSBAD, N.M.—Farmers in the Pecos River Valley can save on labor and time by placing fertilizer in the irrigation water, according to Richard Marek, Otero County agricultural agent. They are especially using this method for winter fertilization, but sidedressing during the cropping season may be applied with tractor-powered distributors.

Fertilizer usage has been climbing steadily in this area, Mr. Marek says. As production costs rise, farmers must increase their yields per acre to show a profit. By using more water and fertilizer, the cotton yields have risen to around two bales per acre.

'Something Extra' Sales Technique Gives Results for Southern Dealer

By ED WHITE and EMMETT ROBINSON
Croplife Special Writers

One of the best ways to show farmers the results of good farm management, reasoned L. P. Herring, owner of the City Coal & Ice Co., Como, Miss., is to show the farmer his farm from the air. So Mr. Herring arranged for 50 of his farm supply customers to take a look at their farm from the air.

While his customers were taking him up on the offer, Mr. Herring decided to go a little further and give his customers' children a ride. Then, "why not give every child in Como a ride?" he asked. Some 300 children accepted his invitation.

Always looking for the chance to offer the customer a little more than he asked can wind up as a community-wide project for Mr. Herring. But the public relations benefits of such projects are obvious. And the "something extra" technique has helped Mr. Herring's business grow from a small town coal and ice dealership into a profitable farm supply store serving parts of five north Mississippi counties.

This spring Mr. Herring looked around for ways to increase his insecticide volume. He arranged for the Planters' Flying Service, an aerial application firm operating out of Blytheville, Ark., to send a qualified representative to scout his customers' fields for harmful insects.

When infestations reached the danger level, an insecticide recommendation was made and an application schedule was developed. Mr. Herring delivered the insecticide to the aerial applicator and loaded it on the plane. The result? The customer was able to do a better job in insect control because of expert help and Mr. Herring increased his insecticide volume by 20%. "I'll never operate any other way," he said.

Mr. Herring started in business 13 years ago selling coal and ice in Como. As a sideline he purchased a truck lime spreader. This business grew so fast that he added fertilizers, seed, insecticides and other farm supply products. Before long, the farm supply business had reduced the coal and ice business to sideline status.

A firm believer in the concept of "one stop farm service," Mr. Herring points out that offering a wide range of products and services pays off in a number of ways. One such advantage is the large number of ASC purchase orders that find their way to Mr. Herring's desk. Since the farmer can buy almost anything authorized on the purchase order—lime, fertilizer or seed—many farmers have their ASC orders sent directly to his office. "Once you get them to come in the first time," Mr. Herring explains, "you have a good chance to keep them coming back."

The latest addition to the products offered is a bulk gasoline delivery service. The farmer can order either regular fuel or refund gasoline.

Some time ago the county agent suggested placing several bulletins in Mr. Herring's store. Believing that better farming practices would mean more business for him, Mr. Herring added more bulletins and displayed them attractively on the wall. Carrying this service one step further, Mr. Herring now calls the county agent when a customer comes in with a

(Turn to SOMETHING EXTRA, page 14)

Retailing of Farm Chemicals Due for Advance in 1959

By EMMET J. HOFFMAN
Croplife Marketing Editor

RETAILING of chemical products for use on the farm is developing into an exact science and all indications point to greater strides in this direction during 1959. The adjustments each dealer must make to keep pace with a changing agricultural situation will depend of course upon the location of the store, the type of customer served and other factors. But 1959 will surely see considerable movement toward better selling methods and more aggressive merchandising.

The need for diversification is one area in which rapid transition is taking place. The trend is unmistakable. The seed dealer must sell more than merely seed. The feed dealer who formerly made a living by renting an unused warehouse on Main street, piling it full of bagged feeds and waiting for farmers to happen by, cannot operate profitably in today's competitive market.

Dealers who formerly had but a single product line have found it necessary to add new and related lines. These dealers know their farmer-customers' needs, habits and intentions better than does anyone else. They must, to operate successfully. And this will be particularly true in 1959 when farmers' motivations and decisions are looming as question marks to many suppliers who would like to know the answers.

What are some of the better retail outlets doing toward making the new year one of progress and added profits? Here are examples of what some store owners are thinking about the matter of diversification:

"My decision to go into this type of business was based on my belief that a complete farm and garden store would be accepted by my customers," says R. G. Christianson, owner of Christie's Farm Store, Lodi, Cal. "I felt that a one-stop store would be a success. Our retail store has complete lines of fertilizers and insecticides, lawn mowers, garden tools, sprayers, bulbs, trellises, garden carts, wheelbarrows, lawn, flower and garden seeds, peat moss and tool rental service. Our feed department carries a complete line of feed for all types of animals. We have a complete line of agricultural fertilizers, insecticides and seeds.

"It is my belief that a farmer or rancher likes to be able to have a one-stop shop, as he is usually pressed for time. We purchase eggs. We also handle baling wire, baler twine, fencing and posts . . . sprayers and a pet supply department.

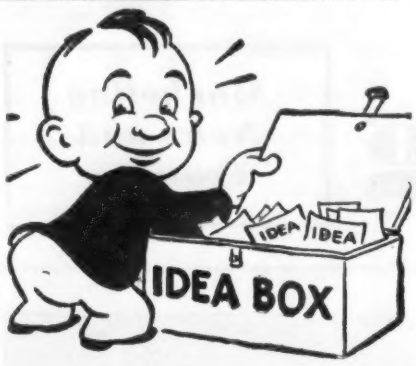
"As for the future of our store, I honestly believe it is very good. Our territory is excellent . . . has a diversified type of farming. We intend to enlarge our retail store."

Another dealer, Nathaniel (Nat) Wilson, Wilson Feed Co., Richmond, Va., says:

"Our customers have all come to expect us to carry many lines of farm supplies and these lines have been good business for us. Gross sales have increased by 40% since we first started expanding our stock from mainly feeds and seeds to include fertilizers, insecticides, farm tools, fencing, garden and lawn tools, power mowers and poultry equipment."

These statements are typical of scores that could be quoted. All of them cite the circumstances that

(Turn to RETAILING, page 14)



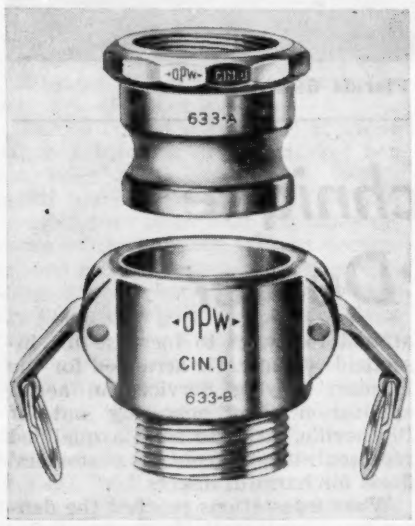
What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6850—Stainless Steel Couplers

Stainless steel "Kamlok" quick couplers are now available from Jordan Industries Sales Division of OPW Corp. The couplers are used with



hoses, pipes and equipment needing a quick coupler. The Kamloks are available in ½ in. to 3 in. sizes. The couplers are suitable for pressures to 200 psi and temperatures to 550° F., the company says. Check No. 6850 on the coupon and mail for details.

No. 6849—Copper Hydrate Complex

A technical bulletin on "Dy-Q-Plex"-1, copper hydrate complex, has been prepared by the Henry Bower Chemical Manufacturing Co. Data on the material plus specifications and package information is included. Charts on the material's physical properties, fungicidal properties and effects on marine organisms supplement the text. Copies of the bulletin can be obtained by checking No. 6849 on the coupon and mailing to this publication.

No. 6848—Film on Weed Killer

American Cyanamid Co. announces the availability of a new film showing the effects of amino triazole on perennial weeds like Canada thistle, cattails and quack grass. Entitled "Roots and All," the color-sound movie takes place in eastern, midwestern and western U.S. According to the company, the 16-minute, 16mm film is available for showings at weed control meetings for agricultural groups. For details, check No. 6848 on the coupon and mail.

No. 6847—Portable Sprayer Line

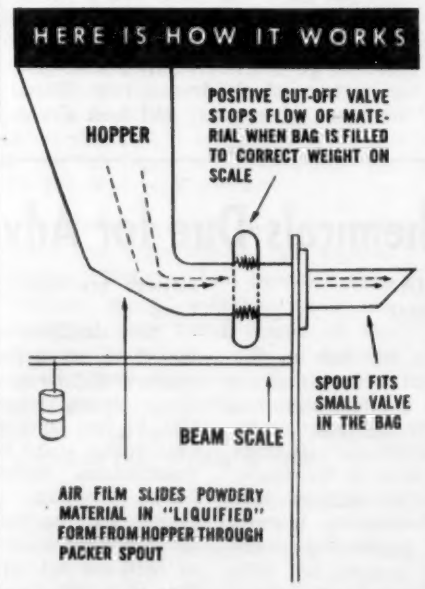
A new line of sprayers, called "Stroll 'N Spray," has been announced by the Universal Metal Products Co., Division of Air Control Products, Inc. Each of the company's three sprayers in the line carries spray solution in a wheeled tank which rolls behind the user. The "Easy Pump" model builds up spraying pressure by moving the towing handle. For details, check No. 6847 on the coupon and mail to this publication.

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6843—Valve Bag Packer

The fluidizing air principle of conveying powdery and free flowing materials is employed in the new Air-Pac valve packer introduced by the


HERE IS HOW IT WORKS
HOPPER
POSITIVE CUT-OFF VALVE STOPS FLOW OF MATERIAL WHEN BAG IS FILLED TO CORRECT WEIGHT ON SCALE
SPOUT FITS SMALL VALVE IN THE BAG
BEAM SCALE
AIR FILM SLIDES POWDERY MATERIAL IN "LIQUIFIED" FORM FROM HOPPER THROUGH PACKER SPOUT

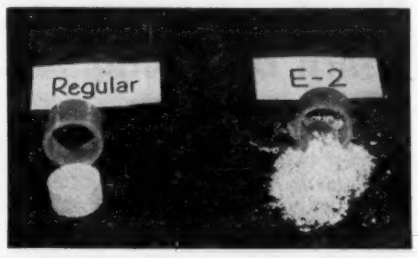
E. D. Coddington Manufacturing Co. The unit fills standard valve bags from 20 to 100 lb. No moving parts are used, the company says, and no motor is required. The packer is ready to operate when connected with a 110 volt AC service and to standard low capacity air compressor system. A built-in scale provides weight control and shuts off the packer automatically when desired weight is reached. Check No. 6843 on the coupon and mail for details.

No. 6840—Aerial Equipment Brochure

Revised brochures describing Transland Aircraft's line of dust and liquid spray aerial applicating equipment are now available. Described in the publication are hoppers, agitator gates, spreaders, plumbing, pumps, dump and pressure regulator valves, trailing edge booms and nozzles, pressure gauges, pilot controls and spray kits. Also included is a current Transland price list. For copies, check No. 6840 on the coupon and mail to Croplife.

No. 6839—Ammonium Nitrate Fertilizer

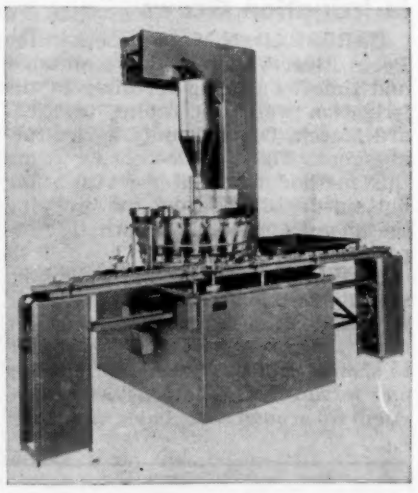
An ammonium nitrate fertilizer, which the Monsanto Chemical Co. says will not cake during storage and



is dust free, has been announced by the firm's inorganic chemicals division. Called "Lion E-2," the product can be stored indefinitely, the company says, and its higher density takes 20% less storage space. The product also remains free-flowing under unfavorable conditions, the company claims, which makes it easier and cleaner to handle. The photo above shows the product being subjected to a pressure test. Check No. 6839 and mail for details.

No. 6842—Rotary Filler

Frazier & Son announce the Model "P" High Speed Rotary Whiz-Packer, a fully automatic volumetric filling machine. The machine is designed to



handle a variety of dry products, ranging from powders to granular and bulk materials. The unit is custom built to plant specifications and is powered by two ¼ h.p. motors. For more complete information, check No. 6842 on the coupon and mail to this publication.

No. 6841—Booklet on Tin Fungicide

An organic tin fungicide, recently developed by a German chemical firm for treating leaf-spot and blight on potatoes, is discussed in "Tin and Its Uses," published by the Tin Research Institute, Inc. The article shows illustrations of crops which have been left untreated contrasted with crops that have been treated with the tin fungicide. Copies can be obtained by checking No. 6841 on the coupon and mailing.

No. 7239—High-Speed Sewing Head

Union Special Machine Co. announces a new high-speed sewing head, Style 53600 H, for closing medium and heavy weight bags made of burlap and single ply or multiwall paper. The machine incorporates a 25% speed increase over the previous machine used in that range, the company says. The unit has automatic lubrication and is adaptable for mounting on existing bag machine frames and columns. The machine can handle up to five-ply multiwall

Send me information on the items marked:

- ☐ No. 6839—Ammonium Nitrate Fertilizer
- ☐ No. 6840—Aerial Equipment Brochure
- ☐ No. 6841—Booklet on Tin Fungicide
- ☐ No. 6842—Rotary Filler
- ☐ No. 6843—Valve Bag Packer
- ☐ No. 6845—Booklet on Spraying
- ☐ No. 6846—Pesticide Fact Book
- ☐ No. 6847—Portable Sprayer Line
- ☐ No. 6848—Film on Weed Killer
- ☐ No. 6849—Copper Hydrate Complex
- ☐ No. 6850—Stainless Steel Couplers
- ☐ No. 7239—High Speed Sewing Head
- ☐ No. 7258—Weigher, Filler Bulletin
- ☐ No. 7305—Moisture Balance

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COMPANY .....

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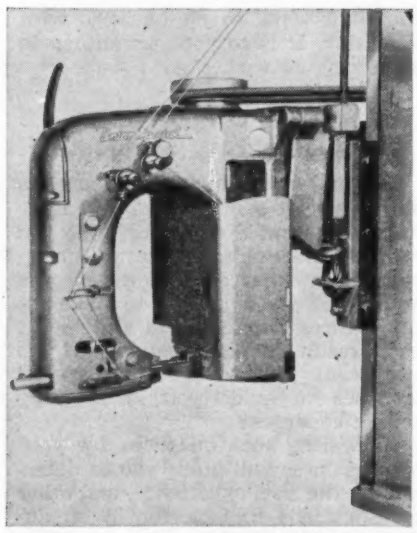
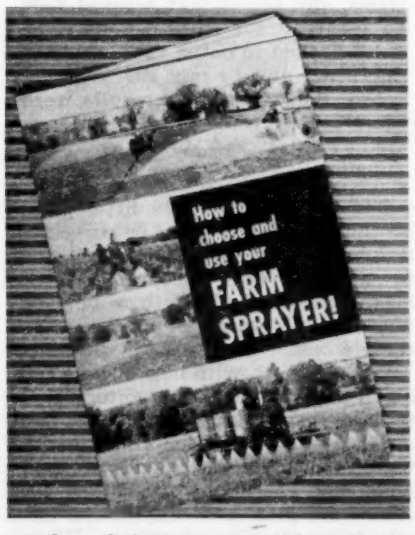


gusset type paper, the company says. Check No. 7239 on the coupon and mail for details.

No. 6845—Booklet on Spraying

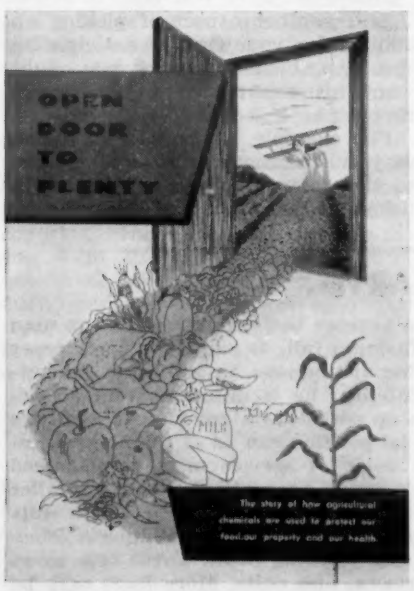
"How to Choose and Use Your Farm Sprayer" is the title of a booklet being offered by the Hanson Equipment Co. The 16-page booklet gives tips on selecting the right kind of sprayer and how to use it efficiently. It includes information on the proper calibration of equipment plus



weed and insect recognition charts with suggested chemicals for their control. For copies, check No. 6845 on the coupon and mail to this publication.

No. 6846—Pesticide Fact Book

Publication of the "Open Door to Plenty," a pesticide industry fact book, has been announced by the National Agricultural Chemicals Assn.



The book tells the story of agricultural chemicals and how they are used. The 64-page illustrated booklet reviews progress which has been made in pesticides and reports on future advances which are expected in the industry. For copies, check No. 6846 on the coupon and mail to this publication.

No. 7258—Weigher, Filler Bulletin

The Holm Model GF weighing and filling machine for packaging of free-flowing materials is described in a bulletin offered by the Richardson Scale Co., Clifton, N.J. Bulletin H-2 tells how the machine operates, lists specifications and describes component parts. A photograph of the unit is included and labeled for working parts. Check No. 7258 on the coupon and mail to this publication for copies.

No. 7305—Moisture Balance

The Ohaus Moisture Determination Balance is a combination drying unit and precision balance which provides an easy way to measure moisture content of a wide variety of products and materials, announced Seedburo Equipment Co. The unit can be used for solids or liquids and shows the percentage of moisture directly to plus or minus 0.170. The

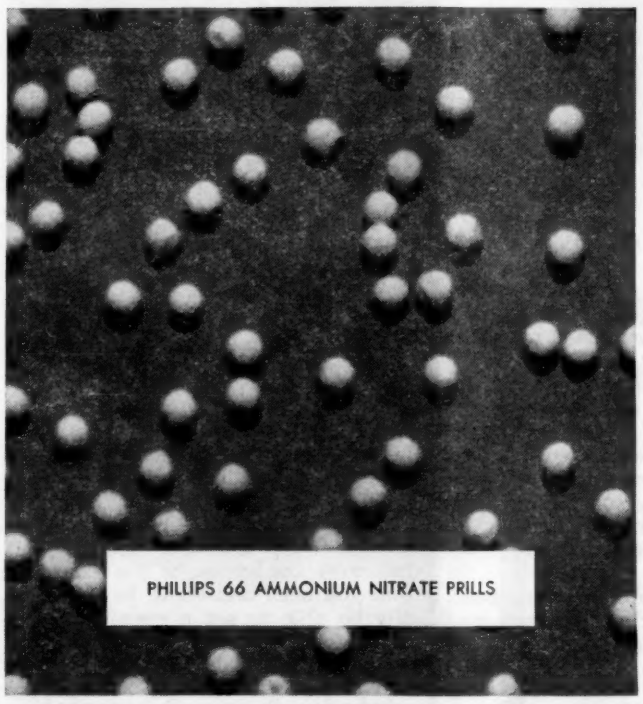
percentage of moisture loss can be read directly throughout the entire cycle as the moisture is driven off, the company says. For details, check No. 7305 and mail to this publication.

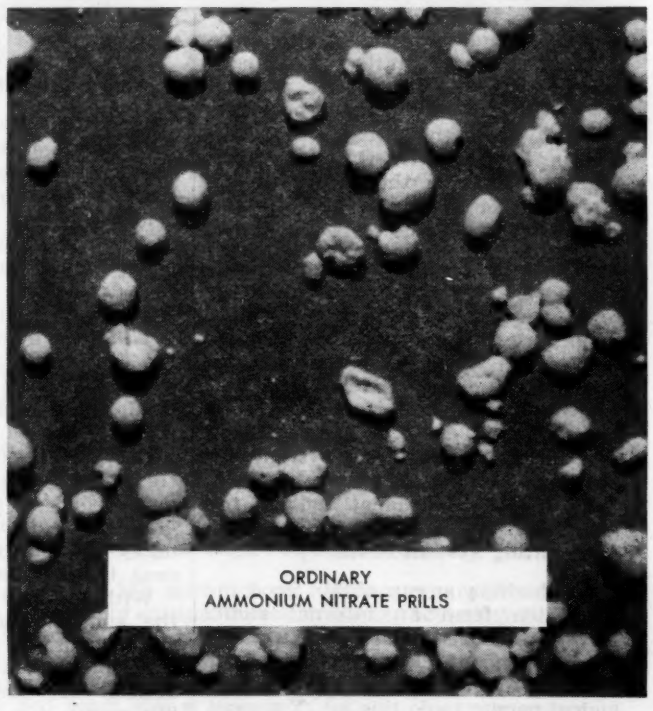
Mouse Infestation

SACRAMENTO—Western Nevada farmers have been advised to employ poison to control a pre-winter infestation of field mice which are overrunning alfalfa and grass meadows. Although the invasion extends throughout western Nevada, it is particularly severe in Washoe and Douglas counties. Louis Gardella, county agent, has recommended a poison bait of oats treated with zinc phosphide.

BUILD IN MEXICO

DENVER—Construction of a half-million-dollar rubber products manufacturing plant in Mexico was announced by Charles C. Gates, Jr., vice president of the Gates Rubber Company of Denver. The new factory will produce a variety of rubber products, including a complete line of V-belts for the automotive and industrial markets in Mexico. Production is scheduled to start July 1, 1959.





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Phillips 66

Picking An Auditor for Your Firm

By WAYNE S. OVERMYER
CPA, Associate Professor of Accounting
University of Cincinnati, Cincinnati, Ohio

Over the years it has been common for large and medium sized firms to have their accounts checked by independent auditors. Small firms, however, have often failed to appreciate the important role these specialists can play in an improved credit rating, better labor relations, and more effective control.

What Independent Auditors Do

To make money, a small business manager needs a trustworthy picture of where he has been, where he stands at present, and where he is headed in the future. For a businessman or a potential investor, reliable and unbiased figures on a company are essential. Hence, the audit.

An audit is a formal examination and checking of accounts. An independent audit is done by a separate accounting organization not connected with the firm being audited. A good auditor will look over the accounting methods used, and will size up how effective they are. From what he finds in this initial review he will then plan the breadth and detail of his own survey.

Typically, an independent auditor goes on the theory of checking a cross section of transactions and appropriate segments of particular accounts. When properly carried out, this approach is reliable in determining the accuracy of all the accounts. It does, of course, take for granted a suitable system of internal control. Therefore, a key step in an independent audit is to look into the adequacy of a firm's accounting system itself.

No doubt, you can obtain good information from an internal audit. However, there is no substitute for an independent check on your own figures. A qualified auditor is the logical person to do this job. You may also want an "informed outsider's" opinion on how to tighten up your internal control. And, too, at times you will have to have an independent statement to check the results of operations. Here again, your auditor is the man to turn to.

He will raise the question of whether or not controls are working as they are said to be. This is a valuable service. Sometimes he will find that procedures which are supposed to be working turn out to have been altered or abandoned. By learning about the actual situation, he can often give the owner-manager the information he needs to straighten things out.

In former times, auditors were looked upon simply as persons who looked for accounting mistakes, prepared financial statements, and detected embezzlement. But, now, other services of an auditor are of even greater importance. Detecting fraud is no longer considered to be the chief purpose of an audit. Among the supplementary services are installation of adequate accounting systems, development of special financial studies, and preparation of tax returns. Today, there are many city, county, state and federal regulations that affect business. The financial statements and supporting information required in meeting these regulations make it almost essential to have an independent audit.

Two Cases in Point

To carry that point a step further, the following cases will spotlight the practical need for having an auditor from the start:

Case No. 1. As a result of a store's check being "returned because of insufficient funds," the owners called in an auditor. His job was to review the company's systems of record keeping and financial control and make recommendations for improvements. Here is what he found:

The owners of the store had previously owned "Real Estate B" in another state. They had acquired it as the commission for selling "Property A." At the time of the transaction, they had set up no basis for valuing "Real Estate B," they "just acquired it." In addition, they kept no records, other than deposit slips and canceled checks with which to establish the effects of this deal.

After several months of unsuccessful experience with "Real Estate B," the owners swapped it for the inventory and fixtures of "Retail Store C" in yet another state. They made no attempt to see if the inventory they were acquiring was out-of-date, over-stocked, or improperly priced. They were so eager to be rid of "Real Estate B" that they were willing to take virtually anything—not realizing that a profit or loss on the exchange of assets had to be determined.

As it turned out, about 50% of the inventory was either no good or so grossly overpriced that the owners had to sell some of it fast at cut prices to bring in some money with which to continue operations. Thereafter, they did hire a manager to run the store. But no further questions were asked until the check "bounced."

When the auditor started to review the accounts of "Retail Store C," he could locate no suitable records. Indeed, the owners had not even obtained a license to do business in the state. They had submitted no city, state or federal tax returns or financial reports of any sort. They could offer no supporting documents, in many instances, for important business transactions.

With so many gaps in information, the auditor's backlog of work was tremendous. He had to set up an accounting system to record the transactions of "Real Estate B," and "Property A," as well as "Retail Store C's" operations. Where supporting records were missing, he had to seek new ones from the proper sources. Fortunately, in almost every case, he got the proof he needed. In the end, he helped in bringing unprofitable operations to a close with a minimum of loss to the unsecured creditors and owners. Without all these services supplied by the outside auditor, the loss to both owners and creditors would have been much greater.

Case No. 2. An independent audit of a small, sole proprietorship showed that the owner had actually withdrawn all of the profits and his investment in the business. In fact, he was using creditors' money as well to live on. When he saw the gravity of his situation he was desperate. As a result, he asked the auditor to make a careful review of operations. This was done.

Then the auditor went further. He recommended action which might be started to correct the financially embarrassing situation. First, he suggested employing only the help needed for the volume of business then being done. Next, he proposed that that manager confine selling efforts to the firm's immediate geographical area. The manager accepted both recommendations.

During the next six months there was an increase in earnings of over 60%. Not only could the manager draw a good salary, but also some profts could be plowed back into the business for modernization—even after improving the firm's position with its creditors.

Background for Selection

If he is to be of the greatest possible assistance, and at an acceptable price, the independent auditor you choose should be one who meets the needs of your small firm. But making a wise selection can be a puzzling problem. The difficulty is that there are literally thousands of individuals and firms in this country who call themselves auditors. It is up to you to select a good one—"good" both in the sense of being competent, and in the sense of having a reputation, size and scope of service appropriate to your needs and pocketbook.

In most cases, the complexity of your business will largely control the amount of auditing and additional accounting services required. Your requirements in turn will help to determine the size of the auditing firm you need and the expense you can afford. Most of the big, national public accounting organizations have various specialized departments, which are called upon by large corporations. Many of the specialized services may not be needed by the typical small business manager. On the other hand, a small, local accountant—fully acquainted with local conditions—may be able to offer just the right sort of personal service "tailored" to a small business with predominantly local activities.

Before you hire an auditor, there are several things you can do to improve your chances of getting one who is satisfactory. Start by having a talk with representatives of several firms. Discuss how they work, what services they would render, and what the cost of those services would be.

It is reasonable, of course, to expect that an auditor will be reluctant to state an exact cost for work he has not yet done. But if he is permitted to review your records and talk over the extent of the examination you need and want, he will usually be able to set a reasonably accurate range of costs. Moreover, he will often go to considerable lengths to work out a mutually satisfactory arrangement both as to billings and payment, and as to the timing of the jobs you want done.

Next, ask other business managers who are using auditing services regularly what their experience has been. And if you belong to a national association in your trade, inquire of them what this service should include and how much it costs.

Your banker and some of your suppliers may be able to help you narrow down your list of qualified auditors. The local chapters of the national accounting groups themselves also may be of assistance in this regard.

Care in picking an auditor is very worthwhile. You will be depending upon him to check your financial accounts. The fact that you have a statement of his objective opinion of your figures can be vital to how well your concern is thought of by people you may want to do business with some day. It is to your advantage to be associated with a good firm.

Will You Need Supplementary Services?

In choosing an auditor, you need to decide what, if any, supplementary work you want. For example, do you want the auditor to evaluate your accounting system as well as prepare audits? Do you want him to make out tax returns and financial statements as a result of his examination? Do you want him to draw up special analyses to guide you in reducing selling expenses?

Answering such questions for your own business will guide you in determining the size, experience, and other qualifications to look for in an auditor. It is desirable, of course, that he have a broad education in accounting and auditing at a reputable school. In addition, he should be interested in small business and in your problems so that he will render maximum service.

Supplementing accounting services can have far-reaching effects. As an outgrowth of an audit, one accountant sat down with a small business manager and reviewed the costs that were occurring day in and day out, whether a sale was made or not. After adding up the items, the accountant showed how to compute the steady volume of sales needed to cover these costs of operation and to pay the owner a reasonable salary. The results were startling. It could readily be seen that profits had been gradually slipping.

Since the future held little promise that this trend could be corrected, the accountant suggested getting into another line. Accordingly, the businessman bought into a new enterprise and found a purchaser for the old one.

In both cases, with new owners taking over, independent auditors were insisted upon by both buyer and seller. It was essential for all concerned to have reliable statements of available cash, accounts receivable, bad debts and similar items. Great care was taken by these auditors. Where they could not agree as to the effect of a particular transaction, a third auditor was called in to give his opinion. None of the deals was closed until all financial information had been lined up according to accepted accounting principles, and until all parties concerned understood and accepted the financial statements.

Anticipating Special Problems

Still another aspect of picking an auditor for your firm is anticipating special problems on which you might want his assistance at some later time.

For example, an auditor is necessary when a partnership is formed so that proper values will be established and methods of distributing

SUMMARY

A qualified independent auditor on a regular basis can give the top man practical help in improving operations. Having a full- or part-time bookkeeper doesn't change this fact. Note the following distinction: An auditor is the outside expert who checks figures for reliability; he is different from an accountant who keeps the books and draws up periodic statements. An auditor's professional opinion of a concern's financial position can be of the highest importance. The auditor's reputation and scope of service must be balanced against his charges and the businessman's actual needs. Sometimes, a smaller local auditor may provide just the service, with a personal touch, which suits a largely local business. Sometimes a big firm is best. Before making a selection, it is wise to talk with several different auditing firms. These interviews can give a general idea of attitudes, services, and costs. More facts may be obtained from business friends, banks, suppliers, trade associations, and from local chapters of the national accounting groups. In situations such as raising equity capital, changing the legal form of organization, and buying or selling a concern, the opinion of an independent auditor is virtually mandatory. In any case, it should be decided how much, if any, supplementary accounting work on special problems the independent auditing firm will be asked to provide. The accompanying article was prepared with the cooperation of the Small Business Administration.

profits maintained. When the form of organization is changed, the basis for either settlement or continuance must be determined. The retirement of a partner or the admission of a new partner also calls for an independent audit to the date of retirement or admission so that accountability for profits and notification of creditors may be carried out properly. In a closely-held corporation, the sale of capital stock, the insuring of the officers' lives, and retirement and pension plans, all are special problems calling for an auditor's assistance.

Often one employee, or a few of them, in a small business must handle several financial and accounting duties. In such cases, a sound system of internal control, periodically checked and adjusted if necessary is a "must." This is true even when the jobs of these people are shifted ever so often to make sure of a fresh approach. The best way to get an unbiased review of such operations, is to call in an independent auditor.

Then again, if you should have surplus funds available, you may want to ask your auditing firm for advice about ways to put the money to immediate and profitable use. This is a particular problem of seasonal businesses.

Proper accounting for inventory transactions in your business can save tax dollars and provide a basis for maintaining adequate stocks as well. In addition, it can make clear how much money is tied up in this manner and how many days' sales are on hand. Funds "frozen" in obsolete or slow-moving inventory, of course, are not earning anything. Yet they do cost money for insurance, loss of interest on the funds, storage, and maintenance.

The method of handling the depreciation of fixed assets also has an important role in the sound development of your business. Although depreciation will be a non-cash expense, it still must be properly accounted for to spread the cost of an asset over its useful life as a charge to income. Many service firms don't realize they are wearing out equipment which they will some day have to replace. Thus, a related problem is how to provide the cash. Should you set aside funds from operations or should you use new money from creditors, stockholders, or from your personal resources?

Finally, most small business owners borrow regularly to expand sales or improve their properties. Most lending institutions require financial statements, and insist that they be prepared by a competent independent auditor if they are to be acceptable as the basis for a loan. Often they will also ask the auditor to evaluate the concern's ability to repay the loan, pointing out what earnings must be in order to handle this additional cash disbursement.

A competent and interested auditor can be valuable to you, both in the audit itself and in the related accounting services he can provide if you want them. Regardless of the nature of your operations, periodic audits and advice are more essential today than ever before. For this reason, select your auditor carefully and make good use of his services.

NEW BOOKLET

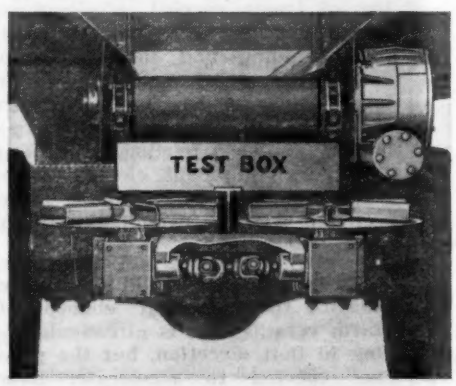
WASHINGTON — Safe handling practices for phosphorus pentasulfide, a highly reactive intermediate used in making insecticides and organophosphorus compounds, are described in a new safety data sheet just issued by the Manufacturing Chemists' Assn. The 14-page safety booklet shows how hazards can be avoided, describes protective equipment for high gas concentrations, recommends safe handling containers and waste disposal methods. First aid measures and suggestions for physicians also are included.

Sevin Insecticide Label Accepted

NEW YORK—New Crag Sevin insecticide 50% dust base has been accepted by the U.S. Department of Agriculture for use in formulating dusts to control cotton insects. Dr. R. H. Wellman, manager, Crag Agricultural Chemicals, Union Carbide Corp., said USDA acceptance of the label clears the way for first domestic marketing of Sevin to growers for regular applications next year on cotton. During the past season, Sevin was made available in major cotton areas for field-testing only.

Union Carbide will sell the dust base to cotton pesticide formulators who in turn will manufacture and sell their own branded products through distributors and dealers to farmers. Most formulators will produce dusts containing 5 to 10% actual Sevin.

NEW LEADER
Engine Driven Combination Spreader
L-32S



This Exclusive NEW LEADER Metering Device Accurately Meters from 100 lbs. per Acre and Up!

The test box slides into position above the spinners. The feedgate is set—the spreader driven 50 ft.—the material coming off the conveyor into the test box is weighed—and calibrated in pounds per acre on the scale dial. Takes the guess work out of spreading . . . and more accurate spreading sells more fertilizer! Be sure to order this attachment with your rig.

The Most Accurate Lime and Fertilizer Spreader Made!

- 12.5 h.p. engine drives twin spinners at a constant rate for smooth, uniform spreads!
- 24" conveyor driven by PTO or drive shaft drive for more precise per-acre requirements!

The New Leader L-32S gives not only the accurate performance customers demand but unusual dependability and versatility as well. *Dependable* because a 6" higher, more heavily reinforced body holds bigger loads, gives years of extra use. A rugged 24" chain conveyor and 45° angle sides eliminate bridging, permit lower center of gravity. Sealed gears give a lifetime of trouble-free maintenance. Spreader can be equipped with a special heavy-duty, 4-ply rubber belt, riveted to an all-steel roller type conveyor . . . that lasts longer . . . prevents excessive stretch . . . and allows you to spread as low as 100 lbs. of material to the acre. Drive shaft drive available with cab controls . . . synchronizes conveyor speed with truck speed to stop "spreading skip" in muddy or snow covered fields. Two compartments (removable) also available. Front compartment with steel bottom dump doors. Rear compartment can be unloaded independently.

The New Leader L-22S with 7.0 h.p. engine available for lighter applications.

NEW LEADER L-42S Mobile Blender Accurately Blends and Spreads 3 Fertilizers at the Same Time!

Permits the operator to control both the amount of spread and ratio of 3 fertilizers depending on varying soil conditions! A 7 h.p. engine drives the twin spinners at a constant rate. A 36" belt-over-chain conveyor is powered from a drive shaft drive and synchronized to truck speed.

Ask Your Nearest NEW LEADER *Distributor for a Demonstration!*

ALA.—G. C. Phillips Tractor Co., Inc., Birmingham and Prichard.
ARK.—Truck Eqpt. Co., Fort Smith, Springdale
Southern Eqpt. Co., Little Rock, El Dorado
COLO.—Madron Mfg. Co., Inc., Denver
DEL.—Bohr Spreader Service, Inc., Harrington
FLA.—Henry W. Conibear, Lakeland
G. C. Phillips Tractor Co., Inc., Birmingham and Prichard (Ala.)
GA.—Brooker Truck Eqpt. Co., Atlanta
IDA.—Oscar Bennion, Murray (Utah)
ILL.—D. H. Thomas & Son, Inc., Rockford
Koste Mach. Co., Inc., Robertson (Mo.)
Truck Eqpt. Co., Peoria
IND.—Emmert Trailer Corp., Elkhart
South Side Eqpt. Co., Inc., Indianapolis
Mulzer Brothers, Tell City, Ind.
IOWA—Badger Body Mfg. Co., Omaha
Snyder-Meylor Co., Sheldon
Wendler-Kraus Eqpt. Co., Inc., Cedar Rapids
KANS.—Perfection Truck Eqpt. Co., Wichita
Dealers Body & Eqpt., Kansas City
Perfection Spring & Eqpt., Kansas City
KY.—Mulzer Brothers, Tell City (Ind.)
Md.—Bohr Spreader Service, Inc., Harrington (Del.)
MICH.—Goes Seed & Eqpt. Co., Saginaw
Emmert Trailer Corp., Elkhart (Ind.)
Ostrom-Johnson Co., Rice Lake (Wis.)
Riedy-Manner Truck Eqpt., Toledo (Ohio)
MINN.—Snyder-Meylor Co., Sheldon (Iowa)
Ostrom-Johnson Co., Rice Lake (Wis.)
MISS.—A. P. Lindsey, Distr., Inc., Jackson
MO.—Koste Mach. Co., Inc., Robertson
Dealers Body & Eqpt., Kansas City
Perfection Spring & Eqpt., Kansas City
NEB.—Agrifirst Chem. Corp., Lincoln
Snyder-Meylor Co., Sheldon (Iowa)
NEV.—Lovelock Welding, Lovelock
N.J.—Bohr Spreader Service, Inc., Harrington (Del.)
N.Y.—H. O. Penn Mach. Co., Inc., New York, Westbury, L. I., and Poughkeepsie
Schmitz Sales & Serv., No. Collins
N.C.—O. H. Stanard, Raleigh
N.D.—Snyder-Meylor, Sheldon (Iowa)
OHIO—Orran Hofstetter, Orrville
D. L. Phillips, Damascus
Riedy-Manner Truck Eqpt. Corp., Toledo
Schodorf Truck Body & Eqpt. Co., Columbus
PA.—Annville Body Co., Annville
Ira D. Haines, Waynesburg
D. L. Phillips, Damascus (Ohio)
S.C.—O. H. Stanard, Raleigh (N.C.)
S.D.—Snyder-Meylor Co., Sheldon (Iowa)
TENN.—Tennessee Distr. Co., Donelson
UTAH—Oscar Bennion, Murray
VA.—O. H. Stanard, Raleigh (N.C.)
W. VA.—Farmers' Truck & Impl. Co., Buckhannon
D. L. Phillips, Damascus (Ohio)
WIS.—Brooks Industrial Sales, Inc., Sun Prairie
Ostrom-Johnson Co., Rice Lake

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Our Business is S-P-R-E-A-D-I-N-G-!

What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

How to grow cotton for profits and markets was spelled out by cotton research workers to some 800 cotton industry leaders at the annual Beltwide Cotton Production Conference held in Houston Dec. 17-18.

Russia has the land, water, know-how and the people to do the job of increasing its production of cotton a considerable amount in the next 10 years, according to Dr. Billy M. Waddle, supervisory research agronomist with the U.S. Department of Agriculture, Beltsville, Md.

While the pesticide industry agrees that the Miller Amendment is a "good sound law," it believes that there can be developed some simplified procedures for determining toxicity and for registration of products for use in agriculture, J. V. Vernon, president of the National Agricultural Chemicals Assn., declared at a recent conference in Washington.

Fertilizer dealers attending their 10th annual conference with research and extension people at North Dakota Agricultural College are convinced that fertilizer business in North Dakota has successfully passed its launching stage and is on its way into orbit as a general farming practice in the state.

Examination of 1959 crop acreage probabilities reveals a solid basis for optimism over the market potential for fertilizer and pesticidal chemicals with emphasis on cotton and corn acreage increases over recent years, reported John Cipperly, Croplife Washington correspondent.

"Losses" to the industry in fertilizer overages range from five to six million dollars annually, the National Plant Food Institute reported. These losses result from fertilizer containing plant food in excess of that guaranteed by the manufacturer.

Production of 15 to 20 tons of grass-legume growth an acre is being achieved on permanent Missouri pastures, said Marshall Christy, University of Missouri extension soils specialist.

Montrose Mexicana, S.A., has started operation of a new DDT plant at Salamanca, state of Guanajuato, Mexico. The plant has a capacity of 15 million lb. DDT a year, as against current Mexican requirements of 9 million lb. annually, the company said.

Central Farmers Fertilizer Co. and National Potash Co. have signed an agreement which calls for acquisition by Central Farmers of a stock interest in National and the production by National of potash materials for distribution by Central Farmers, according to a joint announcement by Richard C. Wells, president of National, and Jos. J. Lanter, president of Central Farmers.

A talk on salesmanship, the showing of a time-lapse sound-and-color film, reports on progress made within the organization during the past year and the election of eight new members to its board of directors featured the opening day of the Agricultural Ammonia Institute's eighth annual meeting in Chicago, Dec. 3.

Montrose Chemical Company of California, jointly owned by Stauffer Chemical Co. and Montrose Chemical Company of Newark, has been awarded a contract by General Services Administration to supply more than 11,000,000 lb. of DDT for the worldwide anti-malaria program of the International Cooperation Administration. Dollar value of the award to Montrose is approximately $2,800,000.

The Fairfield Chemical Division, Food Machinery and Chemical Corp., has announced the acquisition of Powco inventories from the Olin Mathieson Chemical Corp., together with the Powco trademark.

Producers in the 26-state commercial corn-producing area voting in a referendum Nov. 25, favored by 71.1% a new program calling for the elimination of corn acreage allotments and for a new method of setting support prices for the 1959 and succeeding crops.

The typical hourly cost of dusting or spraying crops from a 150-h.p., two-seated plane is estimated to be $28.88, if the applicator uses his plane for 200 hours of flying time annually, and $24.14 if his flying time is 400 hours annually, a U.S. Department of Agriculture economist reported.

The problems involved in introducing new agricultural chemical products on the market received the attention of 350 chemical marketing and production specialists at a joint meeting of the Commercial Chemical Development Assn. and the National Agricultural Chemicals Assn. in Baltimore, Nov. 20-21.

Pesticide dealers and salesmen had some earnest advice from a Food and Drug Administration official at the annual Rutgers University Pesticide Dealers' Conference in New Brunswick, N.J., on Nov. 20. The official admonished the "few pesticide salesmen or distributors more interested in peddling merchandise than in rendering a customer an honest service."

The announcement of the immediate construction of a 60-ton-per-day anhydrous ammonia plant in Arizona was made by C. P. Gould, president of Southwestern Agrochemical Corp., and Owen Cooper, chairman of the board of First Mississippi Corp.

Vertical integration in agriculture will continue to expand in the years ahead, Dr. Tyrus R. Timm, head of the department of agricultural economics and sociology at Texas A&M college, declared in Omaha recently. He spoke at the American Bankers Assn.'s seventh agricultural credit conference.

A presentation on how farmers accept new ideas, a panel discussion of equipment, inventory control and standardization as pathways to profits and a look at the changing economic society as a challenge to today's business leadership were the program highlights at a lively annual meeting of the National Fertilizer Solutions Assn. held in Cincinnati.

RETAILING

(Continued from page 9)

have made the diversification of lines necessary and profitable.

Information gained in a questionnaire sent to 30,500 farm stores in the U.S. indicated a growing diversification in the products and services offered by these retail outlets. The survey, made by Farm Store Merchandising magazine, showed a large percentage of these stores handling fertilizer and pesticidal materials. Some specialty items such as bulk milk tanks and chain saws rated rather low in the percentage column, but the numbers handling farm chemical products were high.

Some 20,570 stores, or 67.4% of the total, handle pesticides.
Fertilizers are sold by 21,362 stores, or 70% of the total.

Stocks of liquid fertilizers and even anhydrous ammonia are also carried by some of the stores, the survey indicated. A total of 5,271 stores (17.3%) offer liquid fertilizer, and 1,814 anhydrous ammonia.

Other high-rating farm supply lines included feed materials such as concentrates and formula feeds. Stock salt was the most universally-sold item, being found in 24,827 stores, or 81.4%.

To show the trend toward diversification, one has only to inspect the list of items carried in significant quantities. These include field seeds, feed grinding and mixing, garden and lawn supplies, garden seeds, pet foods, power mowers, farm hardware, animal health supplies, livestock and poultry supplies, fencing, grain storage, dairy equipment, electric fences, water systems, power tools, water softener salt and even building supplies.

In 1959, the trend will move more toward the "one-stop" concept of farm retailing. It is already heading in that direction, but the pace is expected to accelerate. New profit opportunities will result.

Other problems confronting the dealer with one major line have solutions which an aggressive dealer will find. A number of these problems and the solutions that successful dealers have found are:

1. Is your location being squeezed by residential construction? Possible solutions may be relocation of the store, a change in lines to offer maximum appeal to the new neighbors or a second outlet on the outskirts of the city.

2. Have you too many lines of the same product? Most successful dealers report that it is most profitable not to duplicate lines, and certainly it is not wise ever to carry three or more lines of the same product.

3. Is profit inadequate? A farm store must not and cannot sell on price alone. The dealer needs a fair profit so that he can provide the proper facilities, inventories and service to his customers. The dealer must not expect his profit to come at the expense of the distributor and manufacturer, neither must the distributor and manufacturer expect the dealer to sell "strictly on price."

4. Contractual arrangements puzzling? If our agricultural economy is to have more contracts involving producers, manufacturers and dealers—and many authorities say this trend will continue—then the dealer must accept his share of the responsibilities, risks, controls and profits to remain in business.

5. Is there a lack of aggressive selling policy? It is important to train the sales staff to carry out a systematic sales program. On-the-farm selling cannot be stressed too strongly. Here is an area in which every farm store can excel. Of the 30,500 farm stores referred to previously, about 44% do outside selling. This percentage should be higher. Further, outside selling should not be done on a hit-and-miss basis, but rather on an organized, planned basis. Telephone and direct mail selling should not be overlooked. Plan advertising based on a budget.

6. A lack of merchandising know-how? Interviews with farm store managers in many states indicate certain marks of success common to all of them. (1) They know what sells best in their trade areas, (2) they handle national or well-advertised brands, (3) promote products for which there are needs, (4) give close attention to store arrangement, housekeeping and displays, (5) give extra added service to customers, (6) add lines to increase off-season sales and (7) watch labor assignments and costs.

To summarize, many farm store owners in 1959 will find that diversification of lines will pay off handsomely in extra profits. This technique, along with offering the right merchandise to the right market, avoiding duplication of lines, being aggressive in the selling policy, and improving merchandising know-how will assure the farm supply dealer of having a good year at the cash register.

SOMETHING EXTRA

(Continued from page 9)

problem requiring technical help. The county agent takes it from there.

Fertilizer sales account for a big part of Mr. Herring's volume so he makes a point of promoting frequent soil testing. But he doesn't stop there. "We go to the farm and take the samples ourselves. We take three samples, box them for the customer and send two samples to fertilizer manufacturers and the third to Mississippi State University. Then we compare the three reports and make the recommendation. Usually we make the fertilizer sale, too," he says.

"You can't run an expanding farm supply store business sitting in the office," Mr. Herring states. "You have to get out on the customer's farm and bid for his business."

Routine calls like these take Mr. Herring about 30,000 miles a year covering farms in Panola, Tate, Quitman, Tunica and Lafayette counties.

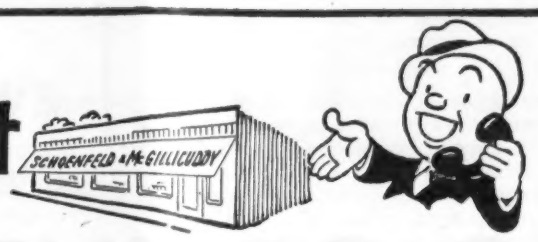
While making these on-the-farm calls several years ago Mr. Herring remembers that he often took along a few odds and ends. "We always tried to have a spare bolt handy if a farmer needed one," he explains.

This little "extra" proved so popular that Mr. Herring followed it up with the establishment of a repair, blacksmith and paint shop. Now customers call on him for everything from sharpening plows and welding broken machinery to painting ornamental iron benches. And while they're patronizing the repair shop they often place an order for something else.

Mr. Herring points out that none of these "extra" services is a drain on business profits. In fact, each of them has not only contributed to a steadily growing business but each has proved profitable when judged alone. "To operate a farm supply business successfully," Mr. Herring observes, "your price has to be right and you have to offer service. It takes service to do the job."

Doing Business With

Oscar & Pat



A tall, middle aged man with rimless glasses stepped into the fertilizer store showroom and approached the railed-in enclosure which separated the showroom from the office. The fellow was Merton Hammersmith, a local insurance man, and he radiated the usual enthusiasm and confidence of his profession.

"Ah, Mr. Schoenfeld!" he said, a wide smile on his face. "How are you this wonderful morning?"

Oscar looked out the window at the cloudy sky and a puzzled look came over his face. "It's going to snow," he announced practically. "And I don't need any insurance."

The insurance man chuckled, as though the reply was a joke.

"You have an ad in this week's Clarion," he said. "You want a woman to work in your office for a month."

Oscar nodded, "Yes, Tillie is going to take an extra two weeks vacation without pay, and we need some one to take her place, beginning Feb. 1."

"I see. I see," said the insurance man, savoring his words, a merry twinkle in his eyes. "Could you use a woman of, say, about 55?"

Oscar frowned. "Ach, that is kind of old. We would like a younger one. But if she knows how to bookkeep, and she will work cheap."

"I'm sorry, but she is not a bookkeeper," said the insurance man, "but I am sure she can be pleasant to customers."

"Pleasant! We do not need a woman for that. We need one who can bookkeep, who can type, who can take shorthand. Can this—this woman you are talking about do this?"

"I don't think so," the insurance man said, apparently not the least rebuffed.

Oscar flushed. "Well, what goot is a woman like that in this business, or any other business? She is not trained in anything for a store or shop."

"That's it," admitted the salesman with a smile.

"Well, who is she?" Oscar asked. "Who can be so dumb that she can expect to get a job in a business when she can't do any of them things?"

The salesman wet his lips. The smile did not leave his face. He leaned forward and looked intently at Oscar. "That woman, Oscar," he said quietly, "is your wife!"

Oscar blinked as though some one had thrown a wet rag against his face. "My wife?" he echoed automatically.

The salesman nodded brightly. "If you died tomorrow and she had to support herself, she wouldn't have much chance to get a job in business, would she? You yourself have just agreed to that. You wouldn't hire a woman like that in this business, would you? Ah, but there is a way out, Oscar. If you would take one of our new, liberal $15,000 life insurance policies, and add that to what you probably already have, then your wife wouldn't have to get a job for awhile after you died. She could have some money to take a course at secretarial school and wise up, and then she could get a good job somewhere, and—"

"Wait a minute!" thundered Oscar, his face purple. "If I die my wife doesn't have to work. Ach, I have plenty of money salted away in bank stock and other good safe investments. You—you mean you haven't got a woman for that job—that you came in here just to try to sell me insurance?"

The insurance man smiled brightly. "Well, why not, Oscar? It's a good lead, isn't it? You are a business man. You know how those things go. I saw your ad in the paper. I got an idea, and over I came. Darn good approach, isn't it?"

"It is not!" Oscar snapped. "I do not like stuff like that. We have enough foolish ideas around here the way it is. Ach, and most of them come from there!" He pointed at Pat's empty chair. Abruptly, he swung back to his discount work.

Merton Hammersmith was not daunted. "Oscar, even if you don't feel the need for more personal life insurance to help your wife over the financial hump when you die, surely you should be interested in our special partnership insurance. What would happen to this business if you would die suddenly?"

Oscar swung around quickly. "It would go kapoot! And fast, too. That, that dumpkopf don't even know if we are behind or ahead of last year. All he does is sell—like you!"

"And if Pat died, what would happen to this business, Oscar?" Hammersmith asked levelly. "And if you didn't have partnership insurance?"

Oscar's eyes narrowed. "Then, everything would be wonderful. That business would be the best in the world. Everything would run smooth, because, ach, it would have a manager, who would know what he was doing—me!"

The salesman was used to objections. "Then, if you are so important to this business, all the more reason why the company should carry a life insurance policy on you with the company as beneficiary."

"Get out!" Oscar thundered. "We are not spending anything for insurance! Himmel, all I have to do every day is tell you salesmen to get out, and I mean it!"

The smile vanished from Merton Hammersmith's face, and for the first time, a look of discouragement crept into his eyes. "All right, Oscar, but you'll be sorry," he said. He moved toward the door and on the way passed Tillie's desk.

"I hope you have a pleasant vacation," he said. "Would you—would you like a little travel insurance for that trip, just to make sure—?"

Tillie shook her head. The salesman shrugged. "Guess this isn't my day, but you can't blame me for trying. We're always on the ball, we good insurance men. I made plenty last year. Just because I tell myself I gotta make six calls a day, six days a week. It's as simple as that. Well, so long. I've still got two calls to make today."

FARM SERVICE DATA

Extension Station Reports

From Kentucky comes the word that it can be profitable to apply commercial nitrogen to corn grown on fields that have been previously cropped with nitrogen-fixing legumes and well supplied with phosphate and potash fertilizer.

Dr. E. C. Doll, University of Kentucky agronomist, reports that corn yields were boosted 13 bu. per acre when 25 lb. of nitrogen fertilizer per acre was added to a field that had previously been in sweet clover.

Corn fertilized with nitrogen yielded 86 bu. per acre, compared to 73 bu. on a plot in the same field that got no commercial nitrogen. Yields remained at the 86-bu. level when the nitrogen application was doubled.

Dr. Doll says the tests were made at the Greenville, Ky., experiment farm.

In further tests, adding 60 lb. of nitrogen fertilizer on a field plowed out of lespedeza sod, increased yields 11 bu. per acre. The nitrogen-fertilized corn averaged 75 bu. per acre, compared to 64 bu. on the untreated plot. When 30 lb. of nitrogen was added, the corn yield increased 5 bu., or up to 69 bu. per acre.

The research men used Kentucky 106A hybrid corn variety in the various tests.

Dr. Doll figured that a farmer planting 20 acres of corn would have harvested 260 extra bushels by adding commercial nitrogen to the field previously in sweet clover and 220 extra bushels by putting nitrogen on the lespedeza sod.

★

Well-fertilized pastures will furnish better grazing for a longer time than those which have not received enough plant food.

John F. Shoulders, associate agronomist at Virginia Polytechnic Institue, says pastures which are well-fertilized will furnish grazing two weeks later in the fall, and will be ready to graze two weeks earlier in the spring. They also have greater ability to recover after a drouth.

Topdressing pastures this winter is a good idea. Use of the upper limits of the following recommendations is desirable if the soil is low in fertility. If already fertilized liberally the lower limit may be enough.

For ladino clover-tall grass mixtures, 400 to 800 lb. per acre of 0-14-14 or 2-12-12 fertilizer or from 200 to 600 lb. of 0-20-20 fertilizer each year is recommended. If the pastures have been closely grazed, nitrogen will stimulate growth, and 10-20-20 or 5-10-10 may be substituted. If a soil test indicates a low potash level, 0-10-20 instead of the other analyses can be used.

For orchard grass-lespedeza, topdress annually with 300 to 500 lb. per acre of 5-10-10, or 150 to 250 lb. of a 10-20-20 or equivalent.

For bluegrass and white clover, or native grass and legume pastures, application should be from 700 to 1,000 lb. per acre of 0-20-10 or 0-20-20, or from 900 to 1,400 lb. of 0-14-14. If there has been no previous pasture improvement, a topdressing of 400 to 500 lb. of a 10-20-20 or 10-20-10, or 800 to 1,000 lb. of a 5-10-10 or 5-10-5 or equivalent is advised.

KENTUCKY FERTILIZER SALES

LEXINGTON, KY.—The Kentucky Department of Feed & Fertilizer reported that 22,624 tons of fertilizer were sold in the state during September. This amounts to 1,122 tons more than the total sold during September of 1957.

SHOP TALK

OVER THE COUNTER

By Emmet J. Hoffman
Croplife Marketing Editor

Farm store employee qualities were outlined recently by James H. Burrell, business management consultant, St. Louis. Said Mr. Burrell:

"A sensible, successful employer wants and must have certain employee qualities if he will remain in a prosperous position. He wants and he must have people who possess: (1) ability to put through a job thoroughly; (2) ability to find a better way to do a job; (3) ability to see new work and do it; (4) ability to work with people; (5) ability for acquiring vision, and capacity of knowing more and more about the department and business with which they are connected; (6) ability to keep growing; (7) the courage of convictions; (8) loyalty, the greatest virtue of the world, on which all other virtues are based; (9) honesty, purpose, ambition within reasonable limits, cleanliness of character and a fine regard for human beings and human rights.

"All of these and many others are required to make up character in an individual."

Public Relations Service

Illinois dealers handling feed have access to a public relations service offered to them by the Illinois Feed Assn. This service consists of weekly news releases covering nutritional and management developments.

A total of 54 Illinois newspapers have used the service, reports Alvin Lovekamp, U&L Grain Co., New Berlin, Ill., last year's president of the Illinois Feed Assn.

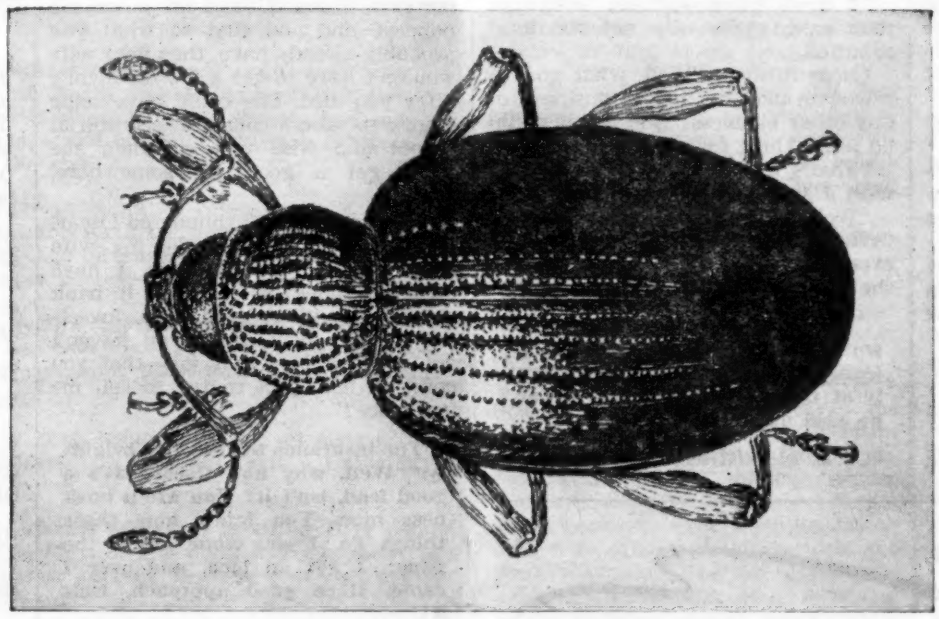
Illinois dealers are urged by Mr. Lovekamp to discuss the free news service with their local editors and request them to use the material as a part of an over-all public relations program.

Mr. Lovekamp enumerated several other tools dealers may effectively use in building a successful public relations program in their communities. Some of them included: (1) working with local and county fairs; (2) permitting various groups to use store windows for their promotional programs; (3) participating in parades and other civic events; (4) using a consistent advertising program; (5) attending field days with customers, and (6) working with local youth.

"Your survival and growth as a feed dealer will depend on your ability to not only merchandise quality products at the right prices, but also on your ability to understand and work with your customers and your community," Mr. Lovekamp said.

BUG OF THE WEEK

Mr. Dealer—Cut out this page for your bulletin board



Strawberry Weevil

How to Identify

The adult weevil, illustrated above, is described as being reddish-brown in color, measuring from 1/12 inch to ⅛ inch in length. Young grubs of the species are soft-bodied, white and legless. They remain in this stage for about 4 weeks before entering the pupal stage.

Habits of the Strawberry Weevil

Adults are active during the early part of the summer, feeding until about mid-summer, then going into hibernation, sheltered under trash, where they remain for the rest of the summer, fall and winter months. Emergence from this stage is in the spring. The female weevil makes a puncture in the strawberry bud and inserts an egg. The young grubs that hatch within the bud feed on it and stay on through their pupal stage, emerging as adults.

Damage Done by Weevil

As described, the strawberry buds are killed through the egg-laying of the adult beetle and the feeding of the young within the bud. Infested strawberry plants are characterized by killed buds and fruit hanging on partly-severed stems. In addition to strawberries, the pest attacks wild blackberries, raspberries, and dewberries. Its distribution is in the eastern part of the U.S.

Control of Strawberry Weevil

A number of insecticides, both old and new, have been recommended in various states for control of this pest. In view of the possibility of residues remaining on the berries, extra caution should be taken in applying any toxicant. State experiment station entomologists and county agents should be consulted for local recommendations.

Illustration of Strawberry Weevil furnished Croplife through the courtesy of the U.S. Department of Agriculture.

Research in the News

Control of red banded leaf roller, a major pest of apples in New York, by means of spray containing a virus to which the larva or worm stage of the insect is particularly susceptible is under investigation at Cornell's Experiment Station at Geneva.

"For the present we can only report progress in our investigations of the behavior of the virus in apple orchards in this state," comments Dr. E. H. Glass, station entomologist.

"Actually, right now, there are more questions than answers about the practical use of the virus as a control measure," he continues. "We know that it is quite potent, but under conditions in New York orchards it kills too slowly to give satisfactory control, except where applied in extremely high concentrations that would be too costly for practical purposes.

"Investigators in other apple-growing areas, particularly in Virginia and southern Indiana, however, report surprisingly good control of the red banded leaf roller by naturally occurring outbreaks of the disease."

Among the questions which the station investigators are attempting to answer is the effect of pesticides now in use in New York orchards on the virus. Laboratory tests indicate that, with one possible exception, present day insecticides and fungicides would not adversely affect the virus.

Other questions for which answers are sought include the length of time required for the virus to inactivate or kill the red banded leaf roller larvae, how long a general application of the virus will be affective in suppressing the pest, and ways of producing the virus easily and cheaply so as to make its use practical in New York orchards.

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Milton, September, and Amber red raspberries merit particular attention for the home garden or for plantings for roadside and market sales, according to Cornell small fruit specialist Prof. George L. Slate at the New York State Experiment Station at Geneva. All three originated at the experiment station.

Milton is particularly outstanding for its freedom from mosaic, says Prof. Slate. It has remained free from this destructive malady in test plantings where other varieties soon become infested, he says. Milton is classified as a late variety. It has large berries and is quite productive, with hardy, vigorous plants.

September is valuable chiefly for its fall-fruiting habit. The fall crop of medium sized berries begins to ripen early in September and continues until frost. The summer crop is fairly early and is rated as of fair quality, but the fall crop rates good in quality. The plants are vigorous, healthy, and hardy, and the variety is believed to be especially worthy of a place in the home garden.

Also in the home garden category and strictly a novelty is Amber which, as its name implies, has amber-colored berries. The berries are large, sweet, and of very good quality, according to Prof. Slate. Amber is the latest raspberry variety to ripen, beginning after Milton. The plants are very vigorous and the tallest of any raspberry fruiting on the station grounds.

As in the case of all new fruit varieties originating at the station planting stocks of Milton, September, and Amber are available from the New York State Fruit Testing Assn. of Geneva which cooperates with the station in the production and distribution of its new introductions.

●

Many of the costs of growing an acre of crop are fixed. High yields are essential to reduce the cost of each unit produced. Some additional fertilizer on a crop will often yield a return of two to five dollars per plant food dollar invested. It is estimated that to grow an acre of corn yielding 50 bu. of shelled corn or 8 tons of silage the cost will range between $60 and $70 per acre. This same field with an additional $15 to $20 worth of fertilizer and sufficient plant population could yield 80 bu. of shelled corn or 12.8 tons of silage. This would involve some extra capital but it would be returned the same year—barring dry weather or other damage.

This also would be true on a hay field yielding 1½ tons of hay per acre. On legumes an application of 300-400 lb. of 0-20-20 or 0-15-30 could boost yields to 3 tons per acre. A hay field that is predominantly grass could be maintained with a treatment of nitrogen, thus reducing costs of reseeding.

On a western Pennsylvania farm a 16-acre bluegrass pasture that received nitrogen supported 25 cows for over a month of continuous grazing. The cows were unable to keep ahead of the growth. A pasture program including bluegrass, orchardgrass, ladino clover, trefoil, sudan or other mixtures would supply 5 months or more of good feed that the cows harvest, thus reducing costs.

Nitrogen proved to be the element most needed for high yields of timothy in 3-year fertilizer application tests begun in Tioga County, Pennsylvania in 1955. The 1957 data in the table shows that even in the third year it was possible to double timothy yields with nitrogen alone.

Yields shown in the table include second cuttings. Where nitrogen was used at rates of 100 lb. or less, second cuttings amounted to 11% or less of the total forage removed. When the nitrogen rate was increased to 200 lb. per acre in split applications, second cuttings averaged 30% of the total forage. This is very important when late summer pasture is needed.

Timothy is one of the most widely grown grasses in much of Pennsylvania since it maintains itself under a great range of soil conditions. Too often its potential for forage production is not realized, either through inadequate fertilization or poor management.

In the experiments described here spring growth was harvested when the heads had just emerged from the boot to obtain good quality hay.

It should be pointed out that nitrogen alone is not enough for continued high production. In 1957, a liberal application of phosphate and potash increased the yield over a ton and a half when sufficient nitrogen was used. Potash and phosphate have become increasingly important each year as more and more of these elements are removed in the forage.

TABLE 1. Production of Timothy in Two Cuttings as Influenced by Nitrogen (N), Phosphate (P_2O_5) and Potash (K_2O) Applications, Tioga County, Pa., 1957.

	——No K_2O——	
Nitrogen	No P_2O_5	100 lb. P_2O_5/A
lb./A	T/A	T/A
None	1.54	1.02
50	1.54	1.66
100	1.83	1.98
200	2.22	2.13
100/100*	2.18	2.06
	——200 lb. K_2O——	
Nitrogen	No P_2O_5	100 lb. P_2O_5/A
lb./A	T/A	T/A
None	1.26	1.43
50	1.75	2.36
100	2.24	2.87
200	2.58	2.69
100/100*	3.13	3.79

*Split application.

Books on Pesticides

WEEDS—Second Edition (1955)
W. C. Muenscher

Entire book has been revised and reset, with descriptions of seventy weeds added to the original list of five hundred, plus twelve new full-page plates depicting nineteen kinds. Keys and full descriptions provided for identification with detailed illustrations of 331. Types and sources of weeds, their means of reproduction and dissemination, and the amount of damage they inflict on crops. Specific directions for control, with reference to chemical methods of recent discovery **$10.00**

CHEMICAL BUSINESS HANDBOOK
Dr. John H. Perry

1,300 double column pages, the equivalent of several average books; 700 illustrations, by 124 contributors. Market research data section is 280 pages, business mathematics 200 pages, financial and accounting 142 pages, research and development 150 pages, sales and advertising 92 pages, twenty sections in all. The book deals with chemical management problems and is useful to technical men, engineers and executives, in the chemical and allied fields. Dr. Perry is editor of the Chemical Engineers Handbook, a companion publication **$17.00**

INSECT PESTS OF FARM, GARDEN and ORCHARD Fifth Edition (1956)
Leonard M. Peairs and Ralph H. Davidson

A standard text for 44 years. Includes insects affecting grasses, grains, cotton, legumes, vegetables, flowers, fruits, stored products, household goods and domestic animals. Contains a new chapter on insecticide formulations, spray mixtures, application equipment, etc. Material on forty new pest species added, including drastic changes in the illustration. 661 pages **$8.50**

DDT and NEWER PERSISTENT INSECTICIDES
T. F. West and G. A. Campbell

The first and major part of book is devoted to the physical and chemical properties, manufacture, formulation and applications of DDT. The second part deals with other chlorinated hydrocarbons whose insecticidal properties have been discovered recently and compares these new insecticides with DDT. The preparation of aqueous suspensions, solutions, emulsions, and dusts containing DDT, the compatability of DDT with other insecticides, fungicides and additions are covered in detail. Contains dozens of tables on the solubility of DDT in various solvents, the catalytic activity of accessory substances in the presence of DDT, analogues of DDT, the comparative toxicity, hydrolysis and solubility of DDT analogues, the toxicity of DDT for almost all important insects, etc. Many illustrations **$8.50**

APPLIED ENTOMOLOGY—Fifth Edition
H. T. Fernald and Harold H. Shepard

This text since 1921 has had an outstanding record of usefulness. The Fifth Edition preserves the general organization and coverage, with changes to improve the presentation and to incorporate new knowledge. Contains chapters on anatomy, physiology and development. The economic importance and control of insects are discussed in a general way with much attention to insecticides. The classification of insects is emphasized, with examples drawn from species conspicuous for being very harmful or decidedly beneficial. Specific control measure included for injurious forms. Last chapter considers other pest animals closely related to insects. 388 pages **$7.50**

DISEASES OF FIELD CROPS—Second Edition (1956)
James G. Dickson, Professor Plant Pathology, University of Wisconsin

Covers the diseases of cereals, grasses, legumes and fiber plants, which are the major food, feed and fiber sources throughout the world. More than 60 diseases incited by viruses, 40 by bacteria and 300 by fungi are listed and discussed in relation to field crop plants. Identification and information basic to its control, with emphasis on the problems of crop rotation, adaptation and the use of disease resistant varieties. This revised edition includes several new diseases, new illustrations and much recent research in the field **$9.00**

THE GARDENER'S BUG BOOK (1956)
Dr. Cynthia Westcott

The Complete Handbook of Garden Pests and their control. Information, scientifically accurate but easy to read on 1,100 insects, mites and other animal pests that attack trees, shrubs, vines, lawns, flowers, fruits and vegetables in home gardens. Illustrations in full color. Control measures combine the latest in chemical developments with time-honored cultural measures. Helpful to all who serve the general public and to truck farmers and fruit gardeners. 579 pages, cloth bound **$7.50**

THE CHEMISTRY AND ACTION OF INSECTICIDES
Harold H. Shepard, Entomologist, U.S. Department of Agriculture, formerly Associate Professor of Insect Toxicology, Cornell University.

Treats the chemistry of insecticides, the history of their use, their commercial importance here and abroad, the nature of the major uses, the influence of environment on effectiveness. Materials are arranged according to their chemical relationships. Two chapters relating to organic compounds largely new as insecticides. Illustrative data in form of tables, and a convenient appendix of equivalents arranged for practical use in the field. 504 pages..... **$8.00**

WEED CONTROL
W. W. Robbins, A. S. Crafts, and R. N. Raynor

A textbook-manual presenting a modern view of the rapidly developing field of chemical weed control. Reports in detail the research on which most modern herbicide usage is based. Weeds, their reproduction, prevention, biological control, chemicals in weed control. Herbicides, foliage contact applications, hormone-like substances, root applications, evaluations of combinations of chemical applications. Weeds of grasslands and turf. Special weed problems, cropped and uncropped areas. Published 1952. 503 pages, 155 illustrations **$8.50**

INSECT, FUNGUS AND WEED CONTROL
Dr. E. R. de Ong

The information is grouped according to field of application rather than to chemical composition or nomenclature. Chapters on insecticide label, seed disinfectants, herbicides, forest insects and diseases, livestock insects, and the pests found in household and industry. Fumigation of warehouses, residual sprays and preservatives for fruits, vegetables and wood products are covered. An up-to-date guide on pest control with the needs of operators, agricultural and structural specialists carefully considered. Shippers and warehouse personnel will find the book useful..... **$10.00**

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ON LAUNCHING PAD—Lloyd C. Hahn, president of Hahn, Inc., Evansville, Ind., launches the firm's 1959 distributor sprayer clinic by presenting the theme of the annual meeting held recently at Evansville.

Rocket Age Theme Sparks Hahn Meeting

EVANSVILLE, IND. — The influence of the rocket age was reflected in the theme of a 1959 distributor sprayer clinic, conducted by Hahn, Inc., Evansville, Ind., and attended by distributors of Hahn Hi-Boy Sprayers from every part of the country as well as from Canada and Latin America. The latest of these annual clinics was keyed to the theme, "Hit a New High with Hi-Boy."

To get the three-day meeting off to an appropriate start, a "rocket" with a giraffe as its passenger was displayed above the rostrum. At the conclusion of Mr. Hahn's welcoming address, a series of flash bulbs were exploded in rapid succession against the illumination of a powerful red light. To add further realism, background sound effects were provided by playing an actual recording of a rocket launching at Cape Canaveral through a concealed amplifier. Simultaneously, hundreds of balloons were released from the ceiling of the large meeting hall, to each of which was attached a cut-out of a giraffe, a trade-mark symbol for the Hahn Hi-Boy high-clearance sprayer and duster. Similarly, the program of activities and all presentations were keyed to the rocket theme.

G. E. Betulius, sales manager of the Hahn sprayer division, reported a 21% increase of Hahn sprayer sales in 1958. Since this was accomplished despite generally unfavorable weather conditions and earlier recessionary trends, Mr. Betulius said that 1959 sales of Hahn sprayers are expected to exceed the 1958 record by at least 35%.

Leaf Curl May Be Threat in Ohio

COLUMBUS—Leaf curl, a fungus disease of peaches, was present last spring on most backyard and poorly sprayed commercial peach trees in Ohio. Favorable weather last summer makes it likely that this disease, unless controlled, will be even more destructive next year, says Blair Janson, Ohio State University extension plant pathologist.

One spray thoroughly applied now or next spring when the air temperature is above 40° and will stay above 40° for 48 hours will give complete control, of this disease, according to Mr. Janson.

REMEMBER TO ORDER
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Monsieur, la Brigitte Bardot est bonne mais Croplife F-PPE est magnifique!

Indiana Five-Acre Corn Champ Hits Yield of 226 Bu.

LAFAYETTE, IND.—Karl Moser, 27, Montgomery County commercial hog raiser, is the 1958 winner of the Indiana five-acre corn growing contest. His official yield of 226 bu. an acre is the second highest in the 45-year history of the competition.

Douglas Lowes, 15-year-old Shelby County farm youth, won the junior division with a yield of 207 bu. an acre.

The contest is sponsored by the Purdue University agricultural extension service and the Indiana Crop Improvement Assn. More than 3,400 farmers participated in the 1958 contest, according to Gilbert P. Walker, Purdue extension agronomist. Indiana's corn crop averaged an estimated 62 bu. an acre this year.

Mr. Moser and his father, Harry Moser, operate a 275-acre farm one and one half miles east of Waveland. Karl Moser, a World War II veteran, and his father are partners in a large commercial hog enterprise.

The field in which Mr. Moser's five-acre check was made contained 38 acres. It is gently rolling, but well-drained. The field had been in corn for four years and was covered with manure in 1957. A heavy growth of stalks was plowed under last April after a broadcast application of 100 lb. of muriate of potash and 100 lb. of 0-48-0 an acre.

The seed bed was prepared by discing once, culti-mulching and harrowing. Corn was drilled May 13 in 40-in. rows with grains 7½ inches apart, making a population of about 20,000 plants an acre. It was row fertilized at the rate of 250 lb. of 5-20-20 an acre.

The crop was side-dressed with 100 lb. of actual nitrogen an acre. It was cultivated twice, once with a rotary hoe and again with a cultivator. Weed killer (2,4-D) spray was applied June 20.

JOINS STAUFFER CHEMICAL

CHAUNCEY, N.Y.—John P. Halan has joined Stauffer Chemical Co.'s employee relations department. He will be headquartered at Stauffer's offices in Chauncey and will participate in all phases of the firm's employee relations activities.

Plans Completed for Soil Test Programs in Three Virginia Counties

WASHINGTON—Plans have been completed for an intensified soil testing demonstration program in three counties in Virginia, sponsored by the National Plant Food Institute in cooperation with the Virginia Polytechnic Institute, announced Dr. W. H. Garman, northeastern regional director of NPFI.

Virginia counties selected by VPI to cooperate in the program are: (1) Southampton County in the coastal plain area, (2) Pittsylvania County in the Piedmont area, and (3) Russell County in the Blue Ridge area in southwestern Virginia.

The intensified soil testing demonstration will be under the supervision of Dr. H. L. Dunton, W. W. Lewis and G. R. Epperson, all of VPI, with the cooperation of Dr. Garman.

Mr. Epperson and H. C. Porter of the Virginia extension service staff have already initiated the educational phases of the program in the three counties. The program began with a one-week course for all professional agricultural workers on "Knowing Your Soils." Professional groups included in this course were the Soil Conservation Service, vocational-agriculture teachers, extension service, and Farmers Home Administration. These groups in turn will assist in working with civic and business groups, and with farmer meetings.

The second phase of the program will deal with using and managing soils. All farmers will be encouraged to take soil samples and to follow the recommendations. Regular farmer meetings will be held by the county agents, assisted by Mr. Epperson and Mr. Porter, during this stage of the program.

Early in January two large posters will be distributed throughout the counties, along with copies of the recently published leaflet "Don't Guess —Have Your Soil Tested." The purpose of the first poster will be to publicize the project and to glamorize soil testing. It will be displayed in agricultural offices and public places as well as in stores and banks. The second poster will give details on where to get soil sampling materials, how to take the samples, and where to leave them for analysis. Collection points will be set up for the farmer's convenience and will operate during the soil testing campaign of the late winter and spring months.

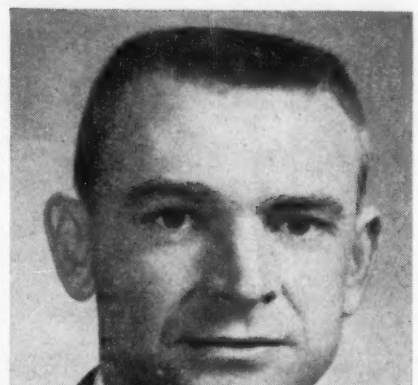
One of the three counties will be selected for a "repeat" program in 1960 to determine what added effects, if any, a continuation of this type of program has on the sale of fertilizer.

NPFI Sets Dates For 1959 Convention

WASHINGTON — The National Plant Food Institute will hold its 1959 annual convention June 14-17 at the Greenbrier, White Sulphur Springs, W. Va., announced Louis H. Wilson, director of information for NPFI.

RESISTANT ALFALFA

ST. PAUL—Crop scientists at the University of Minnesota have found that two kinds of alfalfa from the Mediterranean area are very resistant to black stem. This disease in 1957 knocked out an estimated 15% of the total alfalfa tonnage in Minnesota. Ranger and Vernal, the only two alfalfa varieties currently recommended in the state, are both susceptible to the disease. The finding was made by B. L. Renfro, plant pathologist, and E. W. Sprague, former USDA agronomist at the University, after testing scores of different alfalfas from around the world. Both of the resistant alfalfas are wild types which wouldn't be suitable for farmers in their present form.



Don H. Gravlee

APPOINTED — The Pacific Coast Borax Co. division of U.S. Borax & Chemical Corp. has announced the addition of Don H. Gravlee to its agricultural sales department. Mr. Gravlee will cover the southeastern territory with headquarters at Atlanta. He will handle sales of borate herbicides for agricultural and industrial use and sodium-calcium-borate fire-retardant compounds. Born in Oklahoma City, Mr. Gravlee is a graduate of Oklahoma A&M, where he received an A.B. degree in agricultural economics. He is replacing F. L. Selman in the agricultural sales department.

National Soil Survey Work Makes Strong Advances in 1958

WASHINGTON—The National Cooperative Soil Survey—a project to map and describe all the soils in the U.S.—made strong advances in 1958, the U.S. Department of Agriculture has reported. Progress in field mapping increased 18% over the previous year and the number of published reports nearly doubled, a year-end analysis of records for the fiscal year 1958 shows.

USDA's Soil Conservation Service directs and coordinates the survey in cooperation with state agricultural experiment stations and other state and federal agencies.

The surveys are used primarily by farmers and ranchers and by professional workers in agriculture to plan land use, conservation and production programs. The maps are the basis for conservation planning in the nation's 2,800-plus soil conservation districts.

More than 575 million acres have been mapped to date, providing detailed soil maps for conservation planning on about half the agricultural land in soil conservation districts and about 30% of the total land area of the U.S.

In addition to supplying soils information for basic agricultural uses, the Soil Conservation Service provides special surveys and interpretations useful in several major national programs.

The service's soil survey laboratories at Beltsville gather information from all over the world for the Atomic Energy Commission on the accumulation of atomic "fallout" in the soil and the effects of radioactive materials on soils and plants. This work helped earn for the laboratory's director, Dr. Lyle T. Alexander, the USDA distinguished service award.

The laboratory is also compiling a world soil map, and can provide information about soils in various parts of the world.

Croplife Want Ads . . . Get Results

Report Points Up Importance of Stored Grain Insect Control

WINNIPEG—"Farmers invest considerable time and money to improve agricultural practices and increase crop yields, yet after harvest, many fail to apply the simplest and probably the cheapest of all crop operations to safeguard their grain during storage," according to a report presented to the annual conference of Manitoba Agronomists at the University of Manitoba.

The report, prepared by F. L. Watters, E. A. R. Liscombe and R. N. Sinha, said losses during storage result when insects, mites and molds cause grain to heat.

"Farmers often find out the extent of these losses when they deliver their grain to the elevator. If the grain is infested with insects it will likely be rejected until it has been fumigated. Fumigation will cost about $15 per 1,000 bu. and if applied properly should kill most of the insects."

When heated kernels are mixed with sound kernels, the grain will be downgraded as follows: If the wheat contains less than 10% heated kernels it will be graded "rejected, mixed heated to basic grade" and the discount will be about 14¢ per bu. If the wheat contains more than 10% heated kernels, the grade will be "sample, red spring wheat, heated," and the discount will be about 17¢ per bu.

For a 200-bu. truck load of wheat this will amount to a loss of $28 in the first case and $34 in the second. Discounts are also in effect for coarse grains that are graded "tough" or "damp" and contain spoiled or heated kernels.

The report pointed out that the time and materials required to clean and weatherproof a granary are generally small in relation to other farm operations. The cost of insecticide to treat the floor and walls and ensure safe storage will vary with the capacity of the granary. It ranges from 35¢ to about $4.20 per 1,000 bu., depending on the type of insecticide used.

"Farmers and commercial grain handlers can do much to safeguard grain stocks if they can prevent infestations," it said. "The use of insecticides and other recommended practices will help to maintain grain quality during storage, prevent downgrading and assure higher prices when the grain is sold," the report said.

Half of Fire Ant Infestation in Alabama, Commissioner Says

MONTGOMERY, ALA. — A. W. Todd, Alabama agriculture commissioner, announced that half of the fire ant-infested acreage in the U.S. is in Alabama.

Mr. Todd said that 22 million acres are plagued with the ravenous ant in the nation and 11 million of those acres are in Alabama.

The state has spent $155,000 for the fire ant eradication program and another $250,000 is expected to be spent next year, he said. The federal government has appropriated some $2.4 million to all fire ant infested states for eradication.

Mr. Todd would not venture an estimate of the final cost of an eradication program in Alabama. But he did say it presently costs $3 an acre for treatment and if conditions remain the same, it will cost a total of $33 million to rid Alabama of the pest.

Only about 279,000 acres have been treated so far, he said. Counties receiving the complete eradication treatment include: Limestone, Morgan, Etowah, Blount, Cullman, Calhoun, Pike, Lamar, Fayette, Walker, St. Clair, Talladega and Clay.

Salesmen's Group Announces Nominations

NEW YORK — Nomination of James E. Spencer of the Harshaw Chemical Co. for 1959 president of the Salesmen's Association of the American Chemical Industry, Inc., has been announced by the association's nominating committee.

According to Warren F. Schumacher of J. T. Baker Chemical Co., chairman of the SAACI committee, other nominations for 1959 include: for vice president, George W. Poland, Jr., E. M. Sergeant Pulp & Chemical Co.; for treasurer, Preston F. Tinsley, Westvaco Chlor-Alkali Division, Food Machinery & Chemical Corp.; for secretary, Stewart Cowell, J. T. Baker Chemical Co.

In addition, the following have been nominated as replacements on the board of directors: James M. Fergusson, Sumner Chemical Co.; John M. Glaze, Hooker Electrochemical Co.; Paul E. McCoy, American Potash & Chemical Corp.; Frank Reynolds, Publicker Industries; William Wishnick, Witco Chemical Co.; Walter H. Farley, Chas. L. Huiskin & Co.

Retiring as directors are: Stewart Cowell, J. T. Baker Chemical Co.; Frederick A. Koch, Dow Chemical Co.; LeRoy P. London, Du Pont Co.; Jerome F. McGinty, Millmaster Chemical Co.; John Seidler, Whittaker, Clark & Daniels, Inc.

American Potash Ups Sodium Chlorate Price

LOS ANGELES—American Potash & Chemical Corp. has announced a price increase of ½¢ lb. for sodium chlorate packaged in steel drums and sold in the 11 western states. The new price, effective Jan. 1, 1959, is 10½¢ lb. for carload lots, f.o.b. Henderson, Nev. There is no change in the price of bulk or tank car lots.

"The new price reflects increases all along the line in packaging and handling costs," said William J. F. Francis, AP&CC vice president in charge of sales, from company headquarters in Los Angeles. "While we don't contemplate a change in bulk or tank car material at this time, it should be noted that sodium chlorate prices have changed little in the past five years in spite of steadily rising costs."

Sodium chlorate is used principally in the chlorine dioxide bleaching process in the pulp and paper industry, in agricultural weed control and defoliation and as an oxidant in uranium processing.

CROP DUSTING SERVICE

BAKERSFIELD, CAL.—Vince Crop Dusters has been incorporated here to provide a crop dusting service to farmers in the area. Owners of the firm, capitalized at $100,000, include Vincent V. Bittleston, Winifred O. Bittleston, and Robert Hughett, all of Buttonwillow, Cal.

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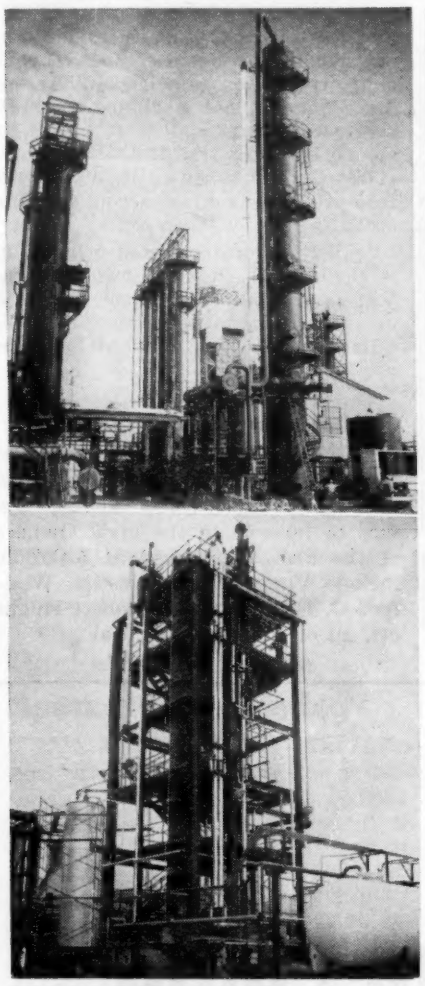

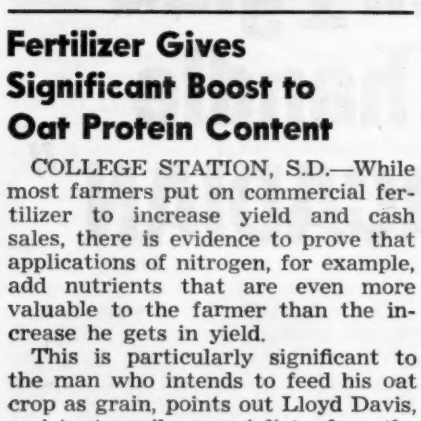

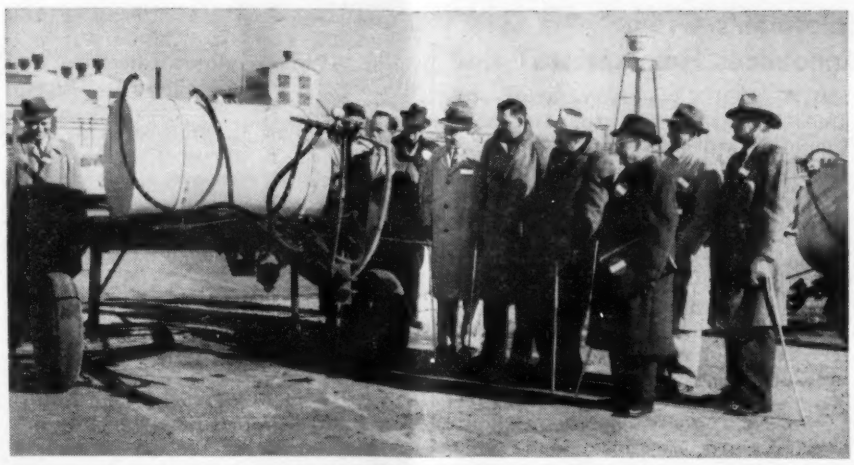

SPENCER'S "URA-GREEEN" SHOW included a tour of the company's new Henderson (Ky.) Works. Upper left photo shows some of the equipment which has been added for the production of urea. The new plant is equipped to produce liquid urea for "Ura-Greeen" direct application solutions or for "Spensol" ammoniating solutions. The lower left photo shows a reactor which brings ammonia and carbon dioxide together in side. The top photo discloses some of the liquid fertilizer mixers viewing one of the pieces of equipment on display at the show.

Spencer Unveils Its Henderson Works For Sixty Liquid Fertilizer Mixers

HENDERSON, KY.—Nitrogen solutions for direct application have a most promising future—this was the opinion expressed by agronomists and manufacturers at the Spencer Chemical Co. "Ura-Greeen" show held here Dec. 11-12.

To open the event, the 60 liquid fertilizer mixers attending viewed Spencer's Henderson Works and the new urea production facilities which were recently completed there. On the following day they attended a seminar at which they heard Brown Beasley, Spencer agronomist, and Nelson Abell, Monroe, La., fertilizer mixer, discuss nitrogen solutions. Mr. Beasley reviewed the chemistry of nitrogen solutions and compared the yield results from experimental plots which used several different forms of nitrogen. In nearly all cases he said that the nitrogen solutions gave equal, if not superior, yields. He indicated one of the chief advantages to be gained by using direct application solutions was the time saved in application.

In a discussion of the mixer's side of the solutions business, Mr. Abell of the Ouachita Fertilizer Co., Monroe, reviewed his experiences with the various methods of solution application, including spraying by air and mixing with irrigation water. Mr. Abell said that corrosion was the number one problem for the liquid mixer and distributor and stressed the importance of a good maintenance program on tanks and other equipment.

The "Ura-Greeen" show followed closely the completion of a 100-ton-per-day Urea Plant at Spencer's Henderson Works. Both prilled urea and non-pressure Ura-Greeen solutions containing 28, 30 and 32% nitrogen will be shipped from the Works.

Fertilizer Gives Significant Boost to Oat Protein Content

COLLEGE STATION, S.D.—While most farmers put on commercial fertilizer to increase yield and cash sales, there is evidence to prove that applications of nitrogen, for example, add nutrients that are even more valuable to the farmer than the increase he gets in yield.

This is particularly significant to the man who intends to feed his oat crop as grain, points out Lloyd Davis, assistant soils specialist for the South Dakota Agricultural Extension Service.

Mr. Davis based his remarks on the effect of nitrogen fertilizer on yield and protein value in a corn-oats-flax-wheat rotation being studied by the South Dakota State College Agricultural Experiment Station during the past two years.

In 1957 the application of 40 lb. of nitrogen nearly doubled the straw yield; increased grain yield by 22.5 bu., and upped the protein content nearly 4%. This represented an increase in market value of $6.28 per acre, but in terms of extra protein, it made the oats worth $12.60 more per acre as feed than the oats which received no nitrogen.

In 1958 (the second year of the experiment) the straw yield increased by .6 ton per acre over non-fertilized check plots; grain yield increased 14 bu. per acre, and protein content increased about the same as before—3.76%. The fertilizer returned an extra $1.94 per acre in increased yield but boosted protein feeding value by $10.99 per acre.

These figures were compiled considering the market value of oats to be 51¢ bu., elemental nitrogen at 13¢ lb. and figuring protein supplement which retailed for 7½¢ a unit. Thirty to 40 lb. of nitrogen appeared to be the most economical regardless of how the crop was to be used.

Maryland Pesticides Conferences Scheduled

COLLEGE PARK, MD. — The 5th annual Maryland Agricultural Pesticides Conferences will be held in February, according to an announcement by Dr. P. W. Santelmann, University of Maryland extension weed control specialist.

The first of the three meetings will be held Feb. 13 at the Salisbury State Teachers College. Meetings are scheduled for Feb. 16 in the Episcopal Parish Hall, La Plata, and Feb. 18 in the Francis Scott Key Hotel, Frederick.

Dealers, chemical company representatives, vo-ag teachers, county extension personnel and others in sale or use of agricultural pesticides are invited to attend the meetings. Purpose of the meetings will be to discuss the latest recommendations and chemicals concerned with disease, weed, insect and nematode control.

Programs will vary according to the location of the meeting. Emphasis will be placed on tobacco in southern Maryland, vegetables and soybeans on the Eastern Shore. In general there will be discussions of pesticides in processing and fruit crops, weed control in field crops and lawns, livestock insect control, field and forage crop insect control and pesticides for shrubs and shade trees.

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PASTURE POTENTIAL

LEXINGTON, KY.—The agronomy department of the University of Kentucky reports that forage yields could be increased 50% and the quality of the herbage greatly increased by fertilizing pastures. Dr. G. T. Webster, head of the department, says that in Kentucky more than 8,600,000 acres of pastureland could be profitably fertilized.

Merck Appointment

RAHWAY, N. J.—Albert W. Merck has been appointed assistant to the executive vice president of Merck & Co., Inc., according to Henry W. Gadsden, who announced the appointment. Mr. Merck's responsibilities will be principally in the area of company marketing problems. Prior to this appointment he had been director of advertising and promotion of the Merck Chemical Division since December, 1955.

LIME SALES

WASHINGTON — U.S. sales of agricultural lime in October amounted to 12,993 tons, compared with 19,338 tons for October, 1957, reported the Bureau of Mines, U.S. Department of the Interior. The sales included 4,953 tons of quicklime and 8,040 tons of hydrated lime.

FLORIDA FERTILIZER SALES

TALLAHASSEE — Fertilizer consumption in Florida during November amounted to 177,505 tons, reported Nathan Mayo, commissioner of the Florida Department of Agriculture. This broke down into 130,993 tons of mixed grades and 46,512 tons of materials.

Sheep Like Fertilized Range Grass Plots, Wyoming Study Shows

LARAMIE, WYO.—Sheep make better use of western range grasses in pastures fertilized with nitrogen, according to Wyoming University Agricultural Experiment Station agronomists.

In experiments at the university substation at Archer last summer, researchers found that sheep given equal access to fertilized and unfertilized native-range-grass test plots grazed the treated plots first.

On fertilized plots, sheep grazed all the native grasses—including buffalograss, which they seldom eat. On unfertilized plots, buffalograss was left standing at the end of the trials, according to Frank Rauzi, U.S. Agricultural Research Service soil scientist at the university.

Results show that stockmen can get more uniform grazing in pastures by fertilizing certain areas, Mr. Rauzi says. In one trial, experimenters fertilized only strips of land in the draws. Sheep, which usually graze the high ground, fully utilized the fertilized strips.

Mr. Rauzi, with Robert Lang, Wyoming University agronomist, conducted the experiments. They applied 100-200 lb. of ammonium nitrate per acre on test plots, and 300 lb. per acre in the strips. Fertilizer was applied on the 15th of April, May, and June. Sheep made best use of the plots fertilized in May, Mr. Rauzi said.

Researchers plan further testing—to find out if benefits from better grazing distribution and grass usage offset the cost of fertilization—before making definite recommendations, Mr. Rauzi said.

Entomologist Picks 10 Worst Oregon Insects

SALEM, ORE.—Joe Capizzi, state department of agriculture survey entomologist, recently picked the year's 10 "most important" crop and forest insect pests on the basis of the damage they do rather than on crop or host importance.

His crop and forest pest list includes: (1) codling moth—one of Oregon's most destructive fruit insects; (2) pear psylla—small insect with big appetite; (3) western cherry fruit fly—lays eggs inside cherry fruit; (4) garden symphylid—not an insect, but delicate white animal that lives in soil and eats almost any crop; (5) spider mites—pests of many crops and always a problem; (6) balsam wooly aphid—insect present in epidemic proportions in Oregon sub-alpine fir forests for which there has been no effective control found; (7) spruce budworm—another forest insect causing a great deal of damage, especially in northeastern part of Oregon; (8) cabbage looper—these insects were season-long and expensive problem in Multnomah, Washington and Marion County vegetable growing districts; (9) aphids—a crop problem everywhere as they attacked everything from roses to wheat, and (10) beet armyworm—an unusual Oregon pest which atacked vegetable crops, mint, sugar beets and even ripening orchard fruit from mid-summer until November.

RUST DISEASE FOUND

PORTLAND, ORE.—A rust disease of rhododendron and azalea plants—never before discovered in Oregon—has been found in three nurseries and a private home planting, Frank McKennon, chief of the Oregon plant industry division, reported. "The infections could potentially hurt our rhododendron nursery trade with other states," Mr. McKennon said. "The situation is serious enough that appropriate action is being required to protect our native stands and private and commercial rhododendron plantings."

Farm Co-op Expansion, Further Growth Plans Outlined by FUGTA

ST. PAUL—Close to 5,000 Upper Midwest farmers attended the 20th annual meeting of the Farmers Union Grain Terminal Assn. here recently.

M. W. Thatcher, general manager of GTA, which has grown to be what is said to be the nation's largest grain marketing co-op, told the farmer delegates their association has a current net worth of $35,416,053.

It was announced that GTA distributed $3,449,513 to patrons last year.

GTA pays 20% of its annual savings to its patrons in cash. Mr. Thatcher reported that this amounted to $699,000 for the 1957-58 year. And in the past fiscal year, he said, the cooperative also retired some $667,000 in preferred stock. Thus, GTA paid $1,357,000 in cash to patrons during the year.

Mr. Thatcher also listed some of the additions made to physical properties during the year, and outlined some of the business goals the co-op has targeted for the coming 12 months.

Irving Clark, member of a St. Paul law firm which serves as general counsel for GTA, said, "The tax campaign against cooperatives will reach a new high pitch this year."

He urged cooperatives to agree on a "sound legislative approach to the tax question," and said "the current efforts of co-op enemies, such as the National Tax Equality Assn., are a serious threat." A 1951 law to clarify the co-op tax situation has been practically nullified by court decisions, he said, further compounding the problem.

Several federal courts have held that cooperative patronage distributions are taxable to patrons, he continued, but only to the extent of their current cash market value. The Treasury Department has agreed. The law previously had been interpreted that patrons were to pay tax on both cash refunds and the face value of co-op securities.

The intent of Congress in the 1951 tax amendment, Mr. Clark said, was for the patrons who received the refund to pay the tax. The court interpretation that this is not necessary on co-op securities with a future market value has thrown the whole matter open to question again, he said, "and the new development has given the opponents of cooperatives an opening, and they can be expected to make the most of it in Congress."

Two resolutions adopted by the GTA convention delegates were related to the tax question. One provided for continuation of the program by which the management of GTA is authorized by the board of directors to pay in cash 20% of the current fiscal year's savings. In addition, stock in GTA is redeemed in full when a stockholder dies or retires from farming and no longer owns or operates a farm in the area served by the association.

The other resolution reaffirmed the co-op's position that patronage refunds, which are paid by farm cooperatives in accord with a pre-existing agreement with patrons, should be taxable at par for the year in which earned whether paid in cash or preferred or common stock. GTA's position, it was stated, is that any non-cash patronage refunds are income to patrons, which income he agrees to invest as capital in the cooperative for his future benefit.

James G. Patton, president of the National Farmers Union, urged continuing efforts toward securing more bargaining power and emphasized that the role of Farmers Union as a general farm organization would include "sponsoring specific proposals for the growth and expansion of the cooperative way."

Gloomicides

The lovely young model was looking very glum. "What's the matter, Tina?" asked the photographer.

"It's my boy friend," Tina explained. "He's lost all his money."

"Ah," the photographer was sympathetic. "And I'll bet you're sorry for him."

"Yes," said the model wistfully. "He'll miss me."

★

A man walked into a New York coffee shop during a busy lunch hour rush, ordered a cup of coffee, gulped it down, left 10¢ on the counter and walked out. Quickly the waitress scooped up the coin, put it in her pocket and turned to the next customer—only to catch the cold eye of the owner staring at her.

She hesitated a moment, then shook her head sadly. "What a screwball!" she confided. "Leaves a 10¢ tip—then walks out without paying."

★

Coffee, aspirin and vodka consumption is hitting new peaks in the U.S., according to a recent bulletin. Package deal, eh?

★

A bride knows little about her husband until she has messed up the check stubs a couple of times.

★

The theater usher was astonished to see a kangaroo sitting in the front row munching a bag of peanuts.

He whispered, "Where'd you get the peanuts? I thought the machine was broken."

★

The old country doctor parked his car, a Model T Ford, in front of the drug store and went in to buy a few supplies.

When he came back out a large crowd of small boys was standing around his old car and laughing loudly at it. The doctor climbed into the seat and said in a mild tone of voice:

"The car's paid for, boys." Then he looked deliberately from one boy to another. "You're not, you're not . . . you're not."

★

The businessman sat in his office dictating a letter to his secretary when, suddenly, p a s t the window plunged a fellow executive from the floor above.

"Good heavens!" he cried, rushing to the window. "Isn't that George Lapham? Why, he just got back from Florida this morning!"

"Well, it certainly m u s t have agreed with him," said the secretary. "Did you notice that tan?"

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The regional circulation of this issue is concentrated in the Southern states.

PREDICTION . . .

Plant Food and Pesticide Sales Expected To Increase During 1959's Growing Season

WHAT'S ahead for the agricultural chemical trade for 1959? If anyone had an unequivocal answer to that question, he could find plenty of eager buyers for it.

Industry leaders look into the next twelve months with considerable optimism, and well they might. Farm income has risen during the past year and despite predictions that it might slip a little in 1959, hopes remain high for additional sales of plant food products so growers will be able to cut production costs and wind up the season with some additional profit.

The role of pesticides is likewise important. After investments in fertilizer, seed and labor to raise a crop to maturity, no sensible farmer is likely to hand over his work to insects or weeds or other agricultural pests.

Some of the factors expected to have a bearing on the agricultural scene in 1959 are outlined by economists of the U.S. Department of Agriculture who point out that farm production costs increased about 5% during 1958 but, next year, cash receipts from farm marketings may be well maintained. Receipts from oats and wheat may be a little smaller, USDA says, but those from cotton may be larger if acreage is expanded.

Another factor not to be overlooked is that soil bank payments to farmers will be less in 1959 since the acreage reserve has been eliminated. However, if some of these acres are used profitably for growing crops, the lack of government payments may be more than made up.

Also, if these idle acres are put into operation, additional plant food will be needed.

Consumer incomes are expected to rise in 1959, as a continuation in the trend of several years. This is almost sure to be reflected in a larger proportion of incomes being spent for food and other goods originating on the farm. The farmer's share of the consumer's food dollar in 1958 was about the same as that for 1957, but the outlook for 1959, according to USDA, is for some further increase.

Other comments on the prospects for business in 1959 are published elsewhere in this issue.

Predictions made for 1958 by industry observers at the end of 1957 have proved to be fairly accurate. One spokesman said that efforts exerted for sales in new areas will pay off. There is a strong trend in that direction. Other observers stressed the need for better distribution of pesticides and fertilizers in 1958; this too, proved correct, for reports carried during the year indicated that better selection of dealers and distributors, plus a stronger emphasis on merchandising, did help the sales picture during the year just ending.

In the final analysis, however, the measurement of any year's success or failure lies not in how many tons or pounds or train-loads of materials were made and sold, but how much profit the firm was able to gain through the transactions of the year. In 1959, as in 1958 and many years previous, the reminder goes out from industry leaders that the mere exchange of dollars does not constitute doing business. Materials and services must afford a margin of gain.

So, perhaps, that is a good thought with which to enter 1959. This done, it will be, truly, a HAPPY NEW YEAR.

Acceptance for Fertilizer Increases Year After Year

OBSERVATIONS made by Paul J. Duesterhaus, immediate past president of the Agricultural Ammonia Institute at that group's recent annual meeting in Chicago, bear quite a significance and appear to be a challenge to salesmen.

In discussing the current status of anhydrous ammonia after some ten years of its development in the fertilizer picture, Mr. Duesterhaus declared that one of the biggest hurdles the industry must clear is that of getting an initial toe-hold in an area. Once under way, he said, the use of nitrogen increases steadily.

The factors of time, as well as those of rainfall or the availability of irrigation, are potent ones, he said. There is plenty of evidence to indicate that the longer a state or community has been applying NH_3 the more it uses. Good results make subsequent sales easier and the use snowballs.

Other comments made by the AAI president also bear repeating. He pointed out that the industry has experienced some rather bad publicity; far worse than actual events warrant. He called to the attention of his listeners that even little accidents with ammonia are often played up in papers; an indication, he said, that such things must be of unusual nature to attract such attention.

New steps are being taken to educate users on how to handle this material, and safety bulletins are being employed to aid in this effort. Any success in helping the farmer to overcome his fear of liquid or gaseous fertilizers will be to the advantage of the industry, he said.

Although Mr. Duesterhaus was referring to anhydrous ammonia in his talk, much of the philosophy thus outlined might be transferred to other forms of fertilizer. Strange as it may seem at first glance, anhydrous ammonia is not the only "new" type of fertilizer to many farmers. Recent surveys have indicated that there are still surprising numbers of growers who have not yet used commercial fertilizers to any appreciable extent.

Getting that foot in the door is obviously the initial problem. There are still many doors not yet opened to the fertilizer salesman, and this should be one of the industry's greatest challenges.

Quote

"Water is rapidly becoming our Number One resource problem. It takes nearly a ton of water to grow a pound of wheat grain—and three-fourths of a ton to grow a pound of clover or corn. It takes 25,000 pounds of water to grow a pound of cotton—and 15,000 pounds of water to produce the grain to make a pound of beef. Irrigation needs are growing. Although only a fraction of our cropland suitable for it is now under irrigation, the practice is spreading across the nation."—**Ezra Taft Benson, Secretary of Agriculture.**

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MEETING MEMOS

Jan. 5-6 — Eighth Annual Oregon Agricultural Chemical Applicators' Conference, Oregon State College campus, Corvallis, Ore.

Jan. 20-22—First Indiana Pesticide Conference, Memorial Center, Purdue University, Lafayette, Ind.

Jan. 21—Second Annual Arizona Fertilizer Conference, University of Arizona, Tucson, Ariz.

Jan. 21-22—Indiana-Ohio Aerial Applicators Conference, Memorial Center, Purdue University, Lafayette, Ind.

March 4-5—Annual Weed and Insect Conference, Fonner Park, Grand Island, Neb.

June 14-17—National Plant Food Institute, Annual Convention, the Greenbrier, White Sulphur Springs, W. Va.

Meeting Memos listed above are being listed in this department this week for the first time.

Jan. 6-7—Colorado Fertilizer Conference, seventh annual meeting, Student Union Building, Colorado State University, Ft. Collins, Colo.

Jan. 6-7—Texas Fertilizer Conference, Texas A&M, College Station, Texas.

Jan. 7-8 — Fertilizer Short Course, Iowa State College, Ames.

Jan. 7-8—Fifth Annual Insect Control Conference, Mississippi State University, State College, Miss.

Jan. 7-9—Thirteenth Annual Northeastern Weed Control Conference, Hotel New Yorker, New York.

Jan. 8-9—Fifth Annual Mississippi Insect Control Conference, Mississippi State University, State College, Miss.

Jan. 9—National Plant Food Institute, Northeast Industry Advisory Committee meeting, Biltmore Hotel, New York City.

Jan. 12-13—Ohio Pesticide Institute, annual winter meeting, Neil House, Columbus, Ohio. J. D. Wilson, Secretary, Agricultural Experiment Station, Wooster, Ohio.

Jan. 13—Pesticide meeting to discuss current recommendations, Rm. 232, Agricultural Experiment Station Building, University of Kentucky, Lexington.

Jan. 13-14—Georgia Plant Food Educational Society, Annual Meeting, Georgia Center for Continuing Education, Athens, Ga., J. Fielding Reed, 710 Mortgage Guarantee Bldg., Atlanta, secretary-treasurer.

Jan. 13-15—Ninth Annual Fertilizer Dealers Training Conference, Pershing Municipal Auditorium, Lincoln, Neb.

Jan. 20-22—California Weed Conference, Miramar Hotel, Santa Barbara, Cal.

Jan. 21-23—Southern Weed Conference, 12th annual meeting, Washington-Youree and Captain Shreve Hotels, Shreveport, La., Dr. Walter K. Porter, Jr., secretary-treasurer.

Jan. 21-22—Northwest Agricultural Chemicals Industry Conference, Benson Hotel, Portland, Ore.; George Kitzmiller, Pacific Cooperatives, Portland, conference chairman.

Jan. 21-23—Western Cooperative Spray Project, Benson and Imperial Hotels, Portland, Ore.

Jan. 22—Seventh Annual Fertilizer Dealers Day, Oregon State College, Corvallis, Ore.

Jan. 22-24 — Agricultural Aircraft Assn., Senator Hotel, Sacramento, Cal.; Wanda Branstetter, Chandler Field, Fresno, Cal., Executive Secretary.

Jan. 27-28 — Insecticide - Fungicide Conference, Kellogg Center, Michigan State University, East Lansing, Mich.

Jan. 27-28—Nematology Workshop, Portland, Ore., sponsored by Shell Chemical Corp.

Jan. 27-28—Soil Science Society of North Carolina, Williams Hall, North Carolina State College, Raleigh.

Jan. 28-29 — Illinois Custom Spray Operators' Training School, 11th annual meeting, University of Illinois, Urbana.

Jan. 29—South Dakota Fertilizer Dealer Short Course, South Dakota State College, Brookings, S.D.

Jan. 29-30—Colorado Agricultural Chemicals Assn., Cosmopolitan Hotel, Denver. D. E. Garrison, Box 623, Greeley, Colo., secretary.

Feb. 9-10—National Cotton Council, 21st annual meeting, Dinkler Plaza Hotel, Atlanta, Ga.

Feb. 10-12 — Agricultural Chemicals Conference, sixth annual meeting, Texas Technological College, Lubbock, Texas.

Feb. 12-13—Midwestern Agronomists-Fertilizer Industry Representatives, 11th annual meeting, Edgewater Beach Hotel, Chicago, Ill., sponsored by National Plant Food Institute.

Feb. 13—National Safety Council, executive committee of the fertilizer section, winter meeting, Heart of Atlanta Motel, Atlanta, Ga.

Feb. 18-20—Midwestern Chapter of the National Shade Tree Conference, 14th annual meeting, LaSalle Hotel, Chicago, Noel B. Wysong, secretary.

Feb. 24-25—Alabama Pest Control Conference, Alabama Polytechnic Institute, W. G. Eden, Secretary-Treasurer, Alabama Association for Control of Economic Pests, Alabama Polytechnic Institute, Auburn, Ala.

March 17—Western Agricultural Chemicals Assn. spring meeting, Hotel Miramar, Santa Barbara, Cal. C. O. Barnard, executive secretary.

June 9-10—Seventeenth Annual Convention of the Association of Southern Feed and Fertilizer Control Officials, Velda Rose Motel, Hot Springs, Ark.; Bruce Poundstone, University of Kentucky, Lexington, Ky., secretary-treasurer.

July 7-9 — Pacific Northwest Plant Food Assn., 10th Annual Regional Fertilizer Conerence, Tacoma, Wash.

Nov. 4-6—Fertilizer Industry Round Table, Mayflower Hotel, Washington, D.C. Dr. Vincent Sauchelli, National Plant Food Institute, chairman.

CALENDAR FOR 1958-59

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Jere Moynihan Named To Summers' Position

BALTIMORE—Summers Fertilizer Co. here has announced the appointment of Jere Moynihan as general manager of Summers' operations in Maine and its Canadian division at St. Stephen, New Brunswick. His headquarters will be at Sandy Point, Maine.

Formerly, Mr. Moynihan was assistant to his predecessor, Fred L. Litty, now vice president and general manager of Northern Chemical Industries at Searsport, Maine. His new position will be devoted exclusively to Summers' sales and production through its branches located at Sandy Point, Bangor, Houlton, Mars Hill and Eastport, Maine and St. Stephen, New Brunswick.

Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge $2.25. Situations wanted, 10¢ a word; $1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Display advertising accepted for insertion at minimum rate of $11 per column inch.

All Want Ads cash with order.

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TWO TECHNICAL SALES REPRESENTAtives for agricultural chemicals midwestern and eastern territories of long established national chemical company. Prefer experienced man, age 25 to 35, with agricultural background. Send resume and date of availability to: Ad No. 4376, Croplife, Minneapolis 40, Minn.

MACHINERY FOR SALE

FOR SALE — DISMANTLING A FERTIlizer plant near Nashville, Tenn. All machinery is for sale. Items include: 4'x14' Gyroset screen, two Steadman 20"x18" hammer mills, many conveyors, two St. Regis valve packers, gas dryer 25'x4', Universal 1020 crusher, 1½ ton mixer, plus many more. Plant open for inspection. Write Ad No. 4332, Croplife, Minneapolis 40, Minn.

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KILL BRUSH at low cost with amazing R-H Brush Rhap. Will not injure grasses, grains, cattle, or other animals. See your dealer, or write Reasor-Hill Corporation, Box 36CL, Jacksonville, Ark.

BRUSH AND WEED KILLER

KILL SUBMERSED water weeds which foul up motor propellers, tangle fishing gear and choke irrigation ditches with R-H Granular Weed Rhap. Inexpensive, easy to use, sure results. For details write Reasor-Hill Corporation, Box 36CL, Jacksonville, Ark.

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New, deeper penetration in your prime market!

Circulated exclusively to production and management!

Edited exclusively for production and management!

Here's an up-to-date, authoritative source on problems of liquid and dry formulation of pesticides, fertilizer mixing, carriers, equipment and maintenance, bagging and packaging, storage, safety, materials handling—and many more items that are the prime concern of your prospects! Here are "case history" articles, trade news, patent and trademark information.

It's the new *Fertilizer-Pesticide Production Edition* of Croplife . . . published every 4th week beginning January 19, 1959 . . . aimed directly at production men and plant managers . . . giving you a fully validated, named circulation of approximately 8,500 top prospects in the fast-growing agricultural chemical field. Now . . . while you're looking for ways to make '59 a bigger, better year for you, reserve your space in Croplife's Jan. 19 *Fertilizer-Pesticide Production Edition*. Plan a year-long program in Croplife to reach the complete buying team—production men and plant managers—of the fertilizer and pesticide fields. Write, wire or call your nearest representative!

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